```
Connecting via Winsock to STN


Welcome to STN International!  Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *  Welcome to STN International  * * * * * * * * * *

 NEWS  1          Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2          "Ask CAS" for self-help around the clock
 NEWS  3  SEP 09  CA/CAplus records now contain indexing from 1907 to the
                  present
 NEWS  4  Jul 15  Data from 1960-1976 added to RDISCLOSURE
 NEWS  5  Jul 21  Identification of STN records implemented
 NEWS  6  Jul 21  Polymer class term count added to REGISTRY
 NEWS  7  Jul 22  INPADOC: Basic index (/BI) enhanced; Simultaneous Left and
                  Right Truncation available
 NEWS  8  AUG 05  New pricing for EUROPATFULL and PCTFULL effective
                  August 1, 2003
 NEWS  9  AUG 13  Field Availability (/FA) field enhanced in BEILSTEIN
 NEWS 10  AUG 15  PATDPAFULL: one FREE connect hour, per account, in
                  September 2003
 NEWS 11  AUG 15  PCTGEN: one FREE connect hour, per account, in
                  September 2003
 NEWS 12  AUG 15  RDISCLOSURE: one FREE connect hour, per account, in
                  September 2003
 NEWS 13  AUG 15  TEMA: one FREE connect hour, per account, in
                  September 2003
 NEWS 14  AUG 18  Data available for download as a PDF in RDISCLOSURE
 NEWS 15  AUG 18  Simultaneous left and right truncation added to PASCAL
 NEWS 16  AUG 18  FROSTI and KOSMET enhanced with Simultaneous Left and Righ
                  Truncation
 NEWS 17  AUG 18  Simultaneous left and right truncation added to ANABSTR
 NEWS 18  SEP 22  DIPPR file reloaded
 NEWS 19  SEP 25  INPADOC: Legal Status data to be reloaded

 NEWS EXPRESS  April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT
               MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
               AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS INTER    General Internet Information
 NEWS LOGIN    Welcome Banner and News Items
 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
 NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

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  result in loss of user privileges and other penalties.

  * * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *
```

```
FILE 'HOME' ENTERED AT 07:07:57 ON 29 SEP 2003

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'REGISTRY' ENTERED AT 07:08:08 ON 29 SEP 2003
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provided by InfoChem.

STRUCTURE FILE UPDATES:   26 SEP 2003  HIGHEST RN 593958-55-5
DICTIONARY FILE UPDATES:  26 SEP 2003  HIGHEST RN 593958-55-5

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> logoff hold
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.40       0.61

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 07:08:14 ON 29 SEP 2003

Connecting via Winsock to STN



Welcome to STN International!  Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'REGISTRY' AT 07:17:49 ON 29 SEP 2003
FILE 'REGISTRY' ENTERED AT 07:17:49 ON 29 SEP 2003
COPYRIGHT (C) 2003 American Chemical Society (ACS)

COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.40       0.61

=>
Uploading 10065677 chloroalananine me ester.str

L1      STRUCTURE UPLOADED
```
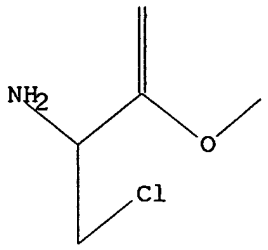

=> d l1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> search l1 exact full
FULL SEARCH INITIATED 07:18:14 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 31 TO ITERATE

100.0% PROCESSED 31 ITERATIONS 4 ANSWERS
SEARCH TIME: 00.00.01

L2 4 SEA EXA FUL L1

=> d scan\
'SCAN\' IS NOT A VALID FORMAT FOR FILE 'REGISTRY'

The following are valid formats:

Substance information can be displayed by requesting individual fields or predefined formats. The predefined substance formats are: (RN = CAS Registry Number)

REG - RN
SAM - Index Name, MF, and structure - no RN
FIDE - All substance data, except sequence data
IDE - FIDE, but only 50 names
SQIDE - IDE, plus sequence data
SQIDE3 - Same as SQIDE, but 3-letter amino acid codes are used
SQD - Protein sequence data, includes RN
SQD3 - Same as SQD, but 3-letter amino acid codes are used
SQN - Protein sequence name information, includes RN

CALC - Table of calculated properties
EPROP - Table of experimental properties
PROP - EPROP and CALC

Any CA File format may be combined with any substance format to obtain CA references citing the substance. The substance formats must be cited first. The CA File predefined formats are:

ABS -- Abstract
APPS -- Application and Priority Information
BIB -- CA Accession Number, plus Bibliographic Data
CAN -- CA Accession Number
CBIB -- CA Accession Number, plus Bibliographic Data (compressed)
IND -- Index Data
IPC -- International Patent Classification
PATS -- PI, SO
STD -- BIB, IPC, and NCL

IABS --ABS, indented, with text labels
IBIB -- BIB, indented, with text labels
ISTD -- STD format, indented

OBIB -------- AN, plus Bibliographic Data (original)
OIBIB ------- OBIB, indented with text labels

SBIB -------- BIB, no citations
SIBIB ------- IBIB, no citations

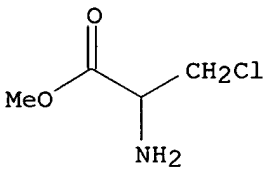
The ALL format gives FIDE BIB ABS IND RE, plus sequence data when it is available.
The MAX format is the same as ALL.
The IALL format is the same as ALL with BIB ABS and IND indented, with text labels.

For additional information, please consult the following help messages:

HELP DFIELDS -- To see a complete list of individual display fields.
HELP FORMATS -- To see detailed descriptions of the predefined formats.
ENTER DISPLAY FORMAT (IDE):end

=> d scan

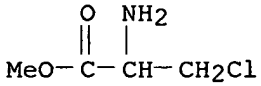
L2 4 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Alanine, 3-chloro-, methyl ester (9CI)
MF C4 H8 Cl N O2
CI COM



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

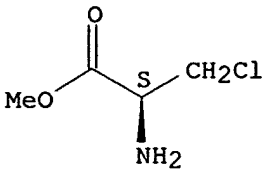
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):4

L2 4 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN L-Alanine, 3-chloro-, methyl ester, labeled with carbon-14 (9CI)
MF C4 H8 Cl N O2



L2 4 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN D-Alanine, 3-chloro-, methyl ester (9CI)
MF C4 H8 Cl N O2
CI COM

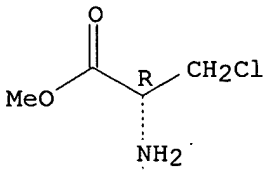
Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L2 4 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN L-Alanine, 3-chloro-, methyl ester (9CI)
MF C4 H8 Cl N O2
CI COM

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	50.55	50.76

FILE 'CAPLUS' ENTERED AT 07:18:57 ON 29 SEP 2003

FILE COVERS 1907 - 29 Sep 2003 VOL 139 ISS 14
FILE LAST UPDATED: 28 Sep 2003 (20030928/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> l2
L3          14 L2

=> d l3 1-14 ti

L3   ANSWER 1 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Procedure for the production and purification of methyl
     2-(acetamino)-3-chloropropanoate

L3   ANSWER 2 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   An Aromatization Mechanism of Inactivation of .gamma.-Aminobutyric Acid
     Aminotransferase for the Antibiotic L-Cycloserine

L3   ANSWER 3 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   A new approach to the synthesis of dipeptides with unnatural amino acids
     using organozinc chemistry

L3   ANSWER 4 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Synthesis of a phosphinic acid transition state analog inhibitor of
     dihydroorotase

L3   ANSWER 5 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Synthesis of 6-phosphonoalkyl tetrahydro-4-pyrimidinecarboxylic acids as
     NMDA receptor antagonists

L3   ANSWER 6 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Preparation of pyridazinones, triazinones, and oxapyridazinones as
     lipoxygenase inhibitors

L3   ANSWER 7 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Pyridoxal methochloride catalysis of the .beta.-elimination reaction of
     methyl 3-chloroalaninate in water

L3   ANSWER 8 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Substituted pyridines

L3   ANSWER 9 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Hydrophilic polymers containing chiral nucleic acid base pendants as
     polynucleotide analogs

L3   ANSWER 10 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Alteration of GABA metabolism in mammalian brain by L-.alpha.-amino-.beta.-
     chloropropionic acid hydroxamide and related compounds

L3   ANSWER 11 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   D,L-Cycloserine

L3   ANSWER 12 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Inhibition of the L-serine O-sulfate-degrading system of pig liver and the
     topography of its active site

L3   ANSWER 13 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Inhibition of glutamate dehydrogenase by L-serine O-sulfate and related
     compounds and by photo-oxidation in the presence of Rose Bengal

L3   ANSWER 14 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   New syntheses of the selenium analogs of dl-cystine and cysteine
     derivatives


=> d l3 14 ti fbib abs

L3   ANSWER 14 OF 14  CAPLUS  COPYRIGHT 2003 ACS on STN
```

TI New syntheses of the selenium analogs of dl-cystine and cysteine derivatives
AN 1947:18844 CAPLUS
DN 41:18844
OREF 41:3758g-i,3759a-b
TI New syntheses of the selenium analogs of dl-cystine and cysteine derivatives
AU Painter, Edgar Page
CS North Dakota Agr. Coll. and Expt. Sta., Fargo
SO Journal of the American Chemical Society (1947), 69, 229-32
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA Unavailable
AB Because of the probable difficulty of sepg. Se compds. from cereals, it seemed that the synthetic route might be the simplest way of showing whether or not the Se amino acids occur in plants. The method of Fredga (C.A. 30, 7101.4) (ClCH2CH(NH2.HCl)CO2Me (I) and K2Se2 in aq. alkali) did not give satisfactory yields, because of the instability of K2Se2 in alkali. I (20 g.) in 150 ml. dioxane, treated with 40 g. K2CO3 and 6 ml. H2O and, with cooling, with 32 ml. BzCl, with stirring 4 hrs. at room temp., gives 83% Me .alpha.-benzamido-.beta.-chloropropionate (II), m. 114.degree.. PhSeH (34.3 g.) and 5 g. Na, treated with 17.4 g. I in 75 ml. abs. EtOH, the mixt. refluxed 15 min., 5 ml. concd. HCl added, the unchanged PhSeH oxidized with air, 600 ml. H2O and 90 ml. concd. HCl added, the soln. evapd. to near dryness, 400 ml. H2O and 1 ml. concd. HCl added, and the soln. shaken with 200 ml. C6H6, give 56% .beta.-(phenylselenyl)-alanine (III), m. 176-7.degree.; similarly prepd., .beta.-(benzylselenyl)alanine (IV) m. 185.degree., 60% yield; IV was prepd. in 48% yield from II and PhCH2SeNa. Reduction of III in NH3 at -65.degree. with Na gives a nearly quant. yield of Ph2Se2. However, IV on reduction with Na at the b.p. of liquid NH3 gives 90% .beta.,.beta.'-diselenodialanine (V), m. 222.degree. (decompn.). I or II with NaHSe in abs. EtOH gives less than 20% V. III is very stable to hydrolysis with concd. HBr but concd. HI slowly cleaved the Ph group.

```
=> save temp l3 chloroalanines/a
CHLOROALANINES/A IS NOT A VALID SAVED NAME
Enter the name you wish to use for the saved query,
answer set, or L-number list.  The name must:
  1. Begin with a letter,
  2. Have 1-12 characters,
  3. Contain only letters (A-Z) and numbers (0-9),
  4. End with /Q for a query (search profile,
     structure, or screen set), /A for an answer
     set, or /L for an L-number list.
  5. Not already be in use as a saved name,
  6. Not be END, SAV, SAVE, SAVED
  7. Not have the form of an L-number (Lnnn).
ENTER NAME OR (END):end

=> save temp l3 chloroala/a
ANSWER SET L3 HAS BEEN SAVED AS 'CHLOROALA/A'

=> file reg
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                 ENTRY    SESSION
FULL ESTIMATED COST                              10.43      61.19

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)    SINCE FILE      TOTAL
                                                 ENTRY    SESSION
CA SUBSCRIBER PRICE                              -0.65      -0.65
```

FILE 'REGISTRY' ENTERED AT 07:24:05 ON 29 SEP 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 26 SEP 2003 HIGHEST RN 593958-55-5
DICTIONARY FILE UPDATES: 26 SEP 2003 HIGHEST RN 593958-55-5

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

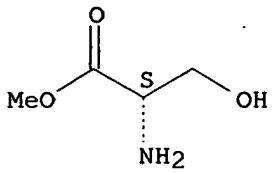
Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

```
=> e serine methyl ester/cn
E1            1     SERINE LEUKOCYTE PROTEINASE INHIBITOR/CN
E2            1     SERINE METALLOPROTEASE A/CN
E3            1 --> SERINE METHYL ESTER/CN
E4            1     SERINE METHYL ESTER CYCLIC BUTANEBORONATE/CN
E5            1     SERINE METHYL ESTER HYDROCHLORIDE/CN
E6            1     SERINE MONOSODIUM SALT/CN
E7            1     SERINE MUSTARD/CN
E8            1     SERINE N-(N6-CARBOXY-N2-FORMYL-DL-LYSYL)-, N-BENZYL METHYL E
                    STER, DL-/CN
E9            1     SERINE N-CARBOXY-, N-BENZYL ESTER, IODOACETATE/CN
E10           1     SERINE O-ACETYLTRANSFERASE/CN
E11           1     SERINE O-ACETYLTRANSFERASE (BACILLUS ANTHRACIS STRAIN AMES G
                    ENE CYSE)/CN
E12           1     SERINE O-ACETYLTRANSFERASE (BACILLUS HALODURANS STRAIN C-125
                     GENE CYSE)/CN

=> e3
L4            1 "SERINE METHYL ESTER"/CN

=> d l4

L4   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2003 ACS on STN
RN   2788-84-3  REGISTRY
CN   L-Serine, methyl ester (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Serine, methyl ester, L- (6CI, 7CI, 8CI)
OTHER NAMES:
CN   (S)-Serine methyl ester
CN   Methyl L-serinate
CN   Methyl serinate
CN   Serine methyl ester
FS   STEREOSEARCH
DR   24425-81-8
MF   C4 H9 N O3
CI   COM
LC   STN Files:   ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CAOLD, CAPLUS,
       CASREACT, CHEMINFORMRX, DDFU, DRUGU, GMELIN*, IFICDB, IFIPAT, IFIUDB,
       TOXCENTER, USPAT2, USPATFULL
         (*File contains numerically searchable property data)
```

Absolute stereochemistry.

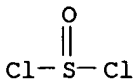


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

330 REFERENCES IN FILE CA (1907 TO DATE)
10 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
330 REFERENCES IN FILE CAPLUS (1907 TO DATE)
10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

```
=> e thinonyl chloride/cn
E1            1     THINK RESIN UPN/CN
E2            1     THINONE RED BROWN BB NEW/CN
E3            0 --> THINONYL CHLORIDE/CN
E4            1     THINSEC/CN
E5            1     THINSULATE M 400/CN
E6            1     THINTECH/CN
E7            1     THINZ-SPAN/CN
E8            1     THIO 1/CN
E9            1     THIO ALP/CN
E10           1     THIO AMPAC/CN
E11           1     THIO DI-.BETA.-D-GALACTOPYRANOSIDE/CN
E12           1     THIO SOLUBLE BROWN BS/CN

=> e thionyl chloride/cn
E1            1     THIONYL BROMIDE, COMPD. WITH QUINOLINE (1:2)/CN
E2            1     THIONYL BROMIDE, COMPD. WITH QUINOLINE (2:1)/CN
E3            1 --> THIONYL CHLORIDE/CN
E4            1     THIONYL CHLORIDE (SOCL2)/CN
E5            1     THIONYL CHLORIDE COMPD. WITH METHYL BENZOATE (1:2)/CN
E6            1     THIONYL CHLORIDE COMPOUND WITH DIMETHYLFORMAMIDE (1:2)/CN
E7            1     THIONYL CHLORIDE COMPOUND WITH DIMETHYLFORMAMIDE (1:3)/CN
E8            1     THIONYL CHLORIDE CYANIDE/CN
E9            1     THIONYL CHLORIDE FLUORIDE/CN
E10           1     THIONYL CHLORIDE HYDRIDE/CN
E11           1     THIONYL CHLORIDE NITRATE/CN
E12           5     THIONYL CHLORIDE, ALUMINUM COMPLEX/CN

=> e3
L5            1 "THIONYL CHLORIDE"/CN

=> d l5

L5   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2003 ACS on STN
RN   7719-09-7  REGISTRY
CN   Thionyl chloride (8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   Sulfinyl chloride
CN   Sulfinyl dichloride
CN   Sulfur chloride oxide (Cl2SO)
CN   Sulfur chloride oxide (SCl2O)
CN   Sulfur oxychloride
CN   Sulfur oxychloride (SOCl2)
```

CN Sulfurous dichloride
CN Sulfurous oxychloride
CN Thionyl chloride (SOCl2)
CN Thionyl dichloride
FS 3D CONCORD
MF Cl2 O S
CI COM
LC STN Files: AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DETHERM*, DIPPR*, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)



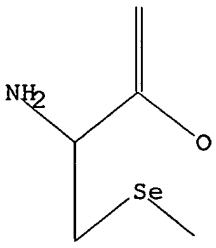
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

5337 REFERENCES IN FILE CA (1907 TO DATE)
105 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
5344 REFERENCES IN FILE CAPLUS (1907 TO DATE)
19 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=>
Uploading 10065677 selenoalananine.str

L6 STRUCTURE UPLOADED

=> d l6
L6 HAS NO ANSWERS
L6 STR



Structure attributes must be viewed using STN Express query preparation.

=> search l6 sss sam
SAMPLE SEARCH INITIATED 07:25:47 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 54 TO ITERATE

100.0% PROCESSED 54 ITERATIONS 4 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

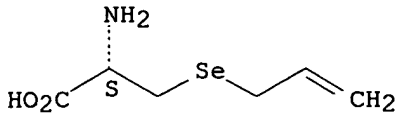
BATCH **COMPLETE**
PROJECTED ITERATIONS: 640 TO 1520
PROJECTED ANSWERS: 4 TO 200

L7 4 SEA SSS SAM L6

=> d scan

L7 4 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN D-Alanine, 3-(2-propenylseleno)- (9CI)
MF C6 H11 N O2 Se

Absolute stereochemistry.

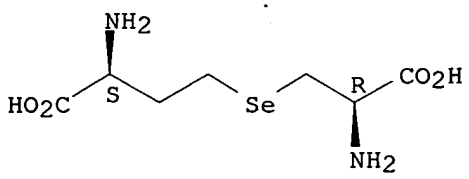


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):4

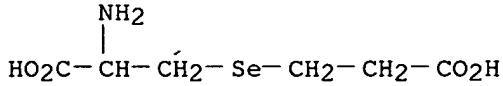
L7 4 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Butanoic acid, 2-amino-4-[[(2R)-2-amino-2-carboxyethyl]seleno]-, (2S)-
(9CI)
MF C7 H14 N2 O4 Se

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

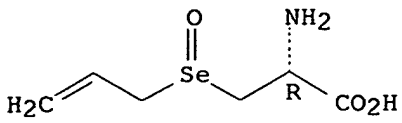
L7 4 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Alanine, 3-[(2-carboxyethyl)seleno]- (9CI)
MF C6 H11 N O4 Se



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L7 4 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN L-Alanine, 3-(2-propenylseleninyl)- (9CI)
MF C6 H11 N O3 Se

Absolute stereochemistry.



ALL ANSWERS HAVE BEEN SCANNED

=> search l6 sss full
FULL SEARCH INITIATED 07:26:36 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 1079 TO ITERATE

100.0% PROCESSED 1079 ITERATIONS 102 ANSWERS
SEARCH TIME: 00.00.01

L8 102 SEA SSS FUL L6

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	161.15	222.34

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.65

FILE 'CAPLUS' ENTERED AT 07:26:44 ON 29 SEP 2003
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FILE COVERS 1907 - 29 Sep 2003 VOL 139 ISS 14
FILE LAST UPDATED: 28 Sep 2003 (20030928/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l8
L9 241 L8

=> save temp l9 meseala/a
ANSWER SET L9 HAS BEEN SAVED AS 'MESEALA/A'

=> d his

(FILE 'HOME' ENTERED AT 07:07:57 ON 29 SEP 2003)

```
     FILE 'REGISTRY' ENTERED AT 07:08:08 ON 29 SEP 2003
L1                STRUCTURE UPLOADED
L2              4 SEARCH L1 EXACT FULL

     FILE 'CAPLUS' ENTERED AT 07:18:57 ON 29 SEP 2003
L3             14 L2
                  SAVE TEMP L3 CHLOROALA/A

     FILE 'REGISTRY' ENTERED AT 07:24:05 ON 29 SEP 2003
                  E SERINE METHYL ESTER/CN
L4              1 E3
                  E THINONYL CHLORIDE/CN
                  E THIONYL CHLORIDE/CN
L5              1 E3
L6                STRUCTURE UPLOADED
L7              4 SEARCH L6 SSS SAM
L8            102 SEARCH L6 SSS FULL

     FILE 'CAPLUS' ENTERED AT 07:26:44 ON 29 SEP 2003
L9            241 L8
                  SAVE TEMP L9 MESEALA/A

=> l4
L10           330 L4

=> l5
L11          5350 L5

=> l10(l)l11
L12             0 L10(L)L11

=> l10 and l9
L13             1 L10 AND L9

=> d l13 ti fbib abs

L13  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Synthesis of [3,14-L-selenocysteine, 8-D-tryptophan]somatostatin
AN   1981:157223  CAPLUS
DN   94:157223
TI   Synthesis of [3,14-L-selenocysteine, 8-D-tryptophan]somatostatin
AU   Hartrodt, B.; Neubert, K.; Bierwolf, B.; Blech, W.; Jakubke, H. D.
CS   Physiol-Chem. Inst., Martin-Luther Univ., Halle/Salle, 402, Ger. Dem. Rep.
SO   Tetrahedron Letters (1980), 21(25), 2393-6
     CODEN: TELEAY; ISSN: 0040-4039
DT   Journal
LA   German
AB   The title compd. (I) was prepd. by conventional peptide condensation
     reactions. in soln.  The inhibitory power of I for insulin and glucagon
     secetion in rats was similar to that of the natural peptide hormone.


=> save temp all selenocmpds/l
L# LIST L1-L13 HAS BEEN SAVED AS 'SELENOCMPDS/L'

=> logoff hold
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     4.08     226.42

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -0.65      -1.30
```

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 07:29:14 ON 29 SEP 2003

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1623PAZ

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2		"Ask CAS" for self-help around the clock
NEWS 3	SEP 09	CA/CAplus records now contain indexing from 1907 to the present
NEWS 4	Jul 15	Data from 1960-1976 added to RDISCLOSURE
NEWS 5	Jul 21	Identification of STN records implemented
NEWS 6	Jul 21	Polymer class term count added to REGISTRY
NEWS 7	Jul 22	INPADOC: Basic index (/BI) enhanced; Simultaneous Left and Right Truncation available
NEWS 8	AUG 05	New pricing for EUROPATFULL and PCTFULL effective August 1, 2003
NEWS 9	AUG 13	Field Availability (/FA) field enhanced in BEILSTEIN
NEWS 10	AUG 15	PATDPAFULL: one FREE connect hour, per account, in September 2003
NEWS 11	AUG 15	PCTGEN: one FREE connect hour, per account, in September 2003
NEWS 12	AUG 15	RDISCLOSURE: one FREE connect hour, per account, in September 2003
NEWS 13	AUG 15	TEMA: one FREE connect hour, per account, in September 2003
NEWS 14	AUG 18	Data available for download as a PDF in RDISCLOSURE
NEWS 15	AUG 18	Simultaneous left and right truncation added to PASCAL
NEWS 16	AUG 18	FROSTI and KOSMET enhanced with Simultaneous Left and Righ Truncation
NEWS 17	AUG 18	Simultaneous left and right truncation added to ANABSTR
NEWS 18	SEP 22	DIPPR file reloaded
NEWS 19	SEP 25	INPADOC: Legal Status data to be reloaded
NEWS 20	SEP 29	DISSABS now available on STN

NEWS EXPRESS	OCTOBER 01 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information

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 NEWS LOGIN     Welcome Banner and News Items
 NEWS PHONE     Direct Dial and Telecommunication Network Access to STN
 NEWS WWW       CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
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  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 11:56:41 ON 08 OCT 2003

=> FIL STNGUIDE
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'STNGUIDE' ENTERED AT 11:56:53 ON 08 OCT 2003
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Oct  3, 2003 (20031003/UP).

=> FIL HOME
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.06       0.27

FILE 'HOME' ENTERED AT 11:57:00 ON 08 OCT 2003

=> FIL STNGUIDE
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.48

FILE 'STNGUIDE' ENTERED AT 11:57:05 ON 08 OCT 2003
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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Oct  3, 2003 (20031003/UP).

=> DIS SAVED
NAME             CREATED      NOTES/TITLE
--------------   -----------  -----------------------------------
ACRYLMETATH/A    TEMP         67 ANSWERS IN FILE CAPLUS
ALKYLATIN/L      13 DEC 2001  9 L-NUMBERS
CHLOROALA/A      TEMP         14 ANSWERS IN FILE CAPLUS
ESTERODOR/L      05 SEP 2002  42 L-NUMBERS
HYDROXAMINES/A   TEMP         8641 ANSWERS IN FILE CAPLUS
INDIUMCL3/A      30 MAY 2001  1 ANSWER IN FILE REGISTRY
LTWENTAUGFOR/A   04 AUG 2001  72 ANSWERS IN FILE CAPLUS
MESEALA/A        TEMP         241 ANSWERS IN FILE CAPLUS
METATHESIS/L     TEMP         36 L-NUMBERS
METHIDES/A       TEMP         500 ANSWERS IN FILE CAPLUS
```

```
NEOTAMECRYST/A    24 APR 2001  59 ANSWERS IN FILE CAPLUS
NVLARMFULGEN/A    19 APR 2001  196 ANSWERS IN FILE REGISTRY
POHBENZALDEH/A    10 JUL 2001  5519 ANSWERS IN FILE CAPLUS
POLYINHBT/L       TEMP         15 L-NUMBERS
PROSTACMPD15/A    01 AUG 2001  34 ANSWERS IN FILE CAPLUS
SELENOCMPDS/L     TEMP         13 L-NUMBERS
STILLEAPP/L       07 JAN 2002  17 L-NUMBERS
TWOAMINOPOLY/Q    16 APR 2001  UPLOADED STRUCTURE


=> DIS SAVED/S
NO SAVED SDI REQUESTS


=> FIL CAPLUS
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.06       0.54

FILE 'CAPLUS' ENTERED AT 11:57:35 ON 08 OCT 2003
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FILE COVERS 1907 - 8 Oct 2003  VOL 139 ISS 15
FILE LAST UPDATED: 7 Oct 2003  (20031007/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> ACT CHLOROALA/A
L1              STR
L2  (         4)SEA FILE=REGISTRY EXA FUL L1
L3           14 SEA FILE=CAPLUS ABB=ON  PLU=ON  L2

=> ACT MESEALA/A
L4              STR
L5  (       102)SEA FILE=REGISTRY SSS FUL L4
L6          241 SEA FILE=CAPLUS ABB=ON  PLU=ON  L5

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.42       0.96

FILE 'REGISTRY' ENTERED AT 11:58:15 ON 08 OCT 2003
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Property values tagged with IC are from the ZIC/VINITI data file
```

provided by InfoChem.

STRUCTURE FILE UPDATES: 7 OCT 2003 HIGHEST RN 600637-01-2
DICTIONARY FILE UPDATES: 7 OCT 2003 HIGHEST RN 600637-01-2

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

```
=> e dimethyldiselenide/cn
E1            1     DIMETHYLDIPROPYLTIN COMPOUND WITH IODINE (1:1)/CN
E2            1     DIMETHYLDIPYRROLIDINOSILANE/CN
E3            0 --> DIMETHYLDISELENIDE/CN
E4            1     DIMETHYLDISILANE-ETHYLENE OXIDE ADDUCT/CN
E5            1     DIMETHYLDISILAZANE/CN
E6            1     DIMETHYLDISOYA ALKYL, CHLORIDES QUATERNARY AMMONIUM COMPOUND
                    S/CN
E7            1     DIMETHYLDISOYA ALKYLAMMONIUM CHLORIDES/CN
E8            1     DIMETHYLDISTAMYCIN A/CN
E9            1     DIMETHYLDISTEARYL AMMONIUM 5-SULFOISOPHTHALATE-PROPYLENE GLY
                    COL-DIETHYLENE GLYCOL-DIMETHYL TEREPHTHALATE COPOLYMER STEAR
                    ATE/CN
E10           1     DIMETHYLDISTEARYLAMMONIUM/CN
E11           1     DIMETHYLDISTEARYLAMMONIUM ACETATE/CN
E12           1     DIMETHYLDISTEARYLAMMONIUM BOROHYDRIDE/CN

=> e dimethyl diselenide/cn
E1            1     DIMETHYL DIPROPARGYLMALONATE/CN
E2            1     DIMETHYL DIPROPYLMALONATE/CN
E3            1 --> DIMETHYL DISELENIDE/CN
E4            1     DIMETHYL DISELENIDE RADICAL CATION/CN
E5            1     DIMETHYL DISELENIDE(1+)/CN
E6            1     DIMETHYL DISULFIDE/CN
E7            1     DIMETHYL DISULFIDE CATION RADICAL/CN
E8            1     DIMETHYL DISULFIDE RADICAL ANION(1-)/CN
E9            1     DIMETHYL DISULFIDE RADICAL CATION/CN
E10           1     DIMETHYL DISULFIDE RADICAL CATION(1+)/CN
E11           1     DIMETHYL DISULFIDE TETRAOXIDE/CN
E12           1     DIMETHYL DISULFIDE(1+)/CN

=> \e3
L7        2128 \E3
               (E3)

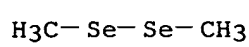
=> \e3
L8        2128 \E3
               (E3)

=> e3
L9            1 "DIMETHYL DISELENIDE"/CN

=> d l9

L9   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2003 ACS on STN
RN   7101-31-7  REGISTRY
```

CN Diselenide, dimethyl (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Methyl diselenide (6CI, 7CI, 8CI)
OTHER NAMES:
CN **Dimethyl diselenide**
MF C2 H6 Se2
CI COM
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM, DDFU, DETHERM*, DRUGU, GMELIN*, MEDLINE, NIOSHTIC, PROMT, TOXCENTER, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

354 REFERENCES IN FILE CA (1907 TO DATE)
356 REFERENCES IN FILE CAPLUS (1907 TO DATE)
9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

```
=> e methyl selenol
E1    12844467     METHYL/BI
E2           1     METHYL CARBAMATO-N/BI
E3           0 --> METHYL SELENOL/BI
E4           1     METHYL'/BI
E5           3     METHYL,1,2,3,4/BI
E6           1     METHYL,2,2A:METHYL',3B,3C/BI
E7           1     METHYL,4/BI
E8           1     METHYL,6'/BI
E9           3     METHYL,METHYL,3,4/BI
E10          1     METHYL,METHYL,METHYL/BI
E11          1     METHYL,METHYL,METHYL,2,4,4/BI
E12          5     METHYL,METHYL,METHYL,3,3,4,4/BI

=> e methyl selenol/cn
E1           1     METHYL SELENIUM PHOSPHORODITHIOATE (((MEO)2PS2)2SE)/CN
E2           1     METHYL SELENOBENZOATE/CN
E3           0 --> METHYL SELENOL/CN
E4           1     METHYL SELENONE/CN
E5           1     METHYL SELENOXIDE/CN
E6           1     METHYL SELENOXIDE, COMPD. WITH CADMIUM CHLORIDE (2:1)/CN
E7           1     METHYL SELENOXIDE, COMPD. WITH COBALT CHLORIDE (COCL2) (2:1)
                   /CN
E8           1     METHYL SELENOXIDE, COMPD. WITH COPPER CHLORIDE (CUCL2) (2:1)
                   /CN
E9           1     METHYL SELENOXIDE, COMPD. WITH MERCURY CHLORIDE (HGCL2) (1:1
                   )/CN
E10          1     METHYL SELENOXIDE, COMPD. WITH NICKEL BROMIDE (NIBR2) (3:2)/
                   CN
E11          1     METHYL SELENOXIDE, COMPD. WITH NICKEL CHLORIDE (NICL2) (3:2)
                   /CN
E12          1     METHYL SELENOXIDE, COMPD. WITH NITROGEN OXIDE (N2O4) (1:1)/C
                   N

=> e methyl selenide/cn
E1           1     METHYL SELENATE ((MEO)2SE2O5)/CN
```

```
E2            1      METHYL SELENATE ((MEO)2SEO2)/CN
E3            1 --> METHYL SELENIDE/CN
E4            1      METHYL SELENIDE, BROMINE COMPLEX/CN
E5            1      METHYL SELENIDE, COMPD. WITH BBR3/CN
E6            1      METHYL SELENIDE, COMPD. WITH BF3/CN
E7            1      METHYL SELENIDE, COMPD. WITH BH3/CN
E8            1      METHYL SELENIDE, COMPD. WITH BORON BROMIDE (BBR3) (1:1)/CN
E9            1      METHYL SELENIDE, COMPD. WITH BORON CHLORIDE (BCL3) (1:1)/CN
E10           1      METHYL SELENIDE, COMPD. WITH BORON FLUORIDE (BF3) (1:1)/CN
E11           1      METHYL SELENIDE, COMPD. WITH BORON IODIDE (BI3) (1:1)/CN
E12           1      METHYL SELENIDE, COMPD. WITH IODINE (1:1)/CN

=> e3
L10           1 "METHYL SELENIDE"/CN

=> d l10

L10  ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2003 ACS on STN
RN   593-79-3  REGISTRY
CN   Methane, selenobis- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Methyl selenide (6CI, 7CI, 8CI)
OTHER NAMES:
CN   Dimethyl selenide
CN   Dimethylselenium
CN   Methyl selenium
MF   C2 H6 Se
CI   COM
LC   STN Files:   AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS,
       CHEMINFORMRX, CHEMLIST, CSCHEM, DETHERM*, EMBASE, GMELIN*, HODOC*,
       MEDLINE, MSDS-OHS, NIOSHTIC, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER,
       USPAT2, USPATFULL
         (*File contains numerically searchable property data)
     Other Sources:   EINECS**
         (**Enter CHEMLIST File for up-to-date regulatory information)


H3C— Se— CH3


**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

            614 REFERENCES IN FILE CA (1907 TO DATE)
              7 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
            615 REFERENCES IN FILE CAPLUS (1907 TO DATE)
              9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)


=> file caplus
COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                21.84      22.80

FILE 'CAPLUS' ENTERED AT 12:00:49 ON 08 OCT 2003
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FILE COVERS 1907 - 8 Oct 2003 VOL 139 ISS 15
FILE LAST UPDATED: 7 Oct 2003 (20031007/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l9
L11 356 L9

=> d his

(FILE 'HOME' ENTERED AT 11:56:41 ON 08 OCT 2003)

FILE 'STNGUIDE' ENTERED AT 11:56:53 ON 08 OCT 2003

FILE 'HOME' ENTERED AT 11:57:00 ON 08 OCT 2003

FILE 'STNGUIDE' ENTERED AT 11:57:05 ON 08 OCT 2003

FILE 'CAPLUS' ENTERED AT 11:57:35 ON 08 OCT 2003
ACT CHLOROALA/A

L1 STR
L2 (4) SEA FILE=REGISTRY EXA FUL L1
L3 14 SEA FILE=CAPLUS ABB=ON PLU=ON L2

ACT MESEALA/A

L4 STR
L5 (102) SEA FILE=REGISTRY SSS FUL L4
L6 241 SEA FILE=CAPLUS ABB=ON PLU=ON L5

FILE 'REGISTRY' ENTERED AT 11:58:15 ON 08 OCT 2003
E DIMETHYLDISELENIDE/CN
E DIMETHYL DISELENIDE/CN
L7 2128 \E3
L8 2128 \E3
L9 1 E3
E METHYL SELENOL
E METHYL SELENOL/CN
E METHYL SELENIDE/CN
L10 1 E3

FILE 'CAPLUS' ENTERED AT 12:00:49 ON 08 OCT 2003
L11 356 L9

=> l11 and l6
L12 8 L11 AND L6

=> d l12 1-8 ti

L12 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
TI Soil methylation-demethylation pathways for metabolism of plant-derived

selenoamino acids

L12 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
TI Methylation of inorganic and organic selenium by the bacterial thiopurine methyltransferase

L12 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
TI A method of using synthetic L-Se-methylselenocysteine as a nutriceutical

L12 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
TI Dimethyldiselenide and methylseleninic acid generate superoxide in an in vitro chemiluminescence assay in the presence of glutathione: Implications for the anticarcinogenic activity of L-selenomethionine and L-Se-methylselenocysteine

L12 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
TI Thioredoxin reductase activity in rat liver is not affected by supranutritional levels of monomethylated selenium in vivo and is inhibited only by high levels of selenium in vitro

L12 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
TI Allium chemistry: synthesis, natural occurrence, biological activity, and chemistry of Se-alk(en)ylselenocysteines and their .gamma.-glutamyl derivatives and oxidation products

L12 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
TI Biotransformations of Selenium Oxyanion by Filamentous Cyanophyte-Dominated Mat Cultured from Agricultural Drainage Waters

L12 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
TI Selenium-77 relaxation time studies on compounds of biological importance: dialkyl selenides, dialkyl diselenides, selenols, selenonium compounds, and seleno oxyacids

=> d l12 3 ti fbib abs

L12 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2003 ACS on STN
TI A method of using synthetic L-Se-methylselenocysteine as a nutriceutical
AN 2002:364013 CAPLUS
DN 136:369993
TI A method of using synthetic L-Se-methylselenocysteine as a nutriceutical
IN Spallholz, Julian E.; Reid, Ted W.; Walkup, Robert D.
PA Pharmase, Incorporated, USA
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1205471	A1	20020515	EP 2001-103018	20010208
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
				US 2000-677563 A	20001002
	EP 1077209	A1	20010221	EP 2000-117106	20000809
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
				US 1999-376073 A	19990816
	US 2003083383	A1	20030501	US 2002-288024	20021105
				US 1999-376073 B2	19990816
				US 2000-677563 A3	20001002

OS CASREACT 136:369993

AB The invention describes the synthesis and use of L-Se-methylselenocysteine (I), a nutriceutical which is less toxic than L-selenomethionine towards normal cells. The synthesis involves mixing N-(tert-butoxycarbonyl)-L-serine with a dialkyl diazodicarboxylate and at least one of a trialkylphosphine, triarylphosphine and phosphite to form a mixt. contg. N-(tert-butoxycarbonyl)-L-serine .beta.-lactone, addn. of methylselenol or a salt, and deprotection. This synthesis significantly improves the manufg. efficiency and utility I., a naturally occurring rare form of org. selenium. I formed in this manner may be used as a nutriceutical in the diets of humans or animals for various beneficial purposes, such as, for example, to prevent or reduce the risk of developing cancer. A bar graph which compares the effect of I and L-selenomethionine on the growth of normal rabbit fibroblasts is given.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	8.60	31.40

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.65	-0.65

FILE 'REGISTRY' ENTERED AT 12:06:03 ON 08 OCT 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 7 OCT 2003 HIGHEST RN 600637-01-2
DICTIONARY FILE UPDATES: 7 OCT 2003 HIGHEST RN 600637-01-2

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

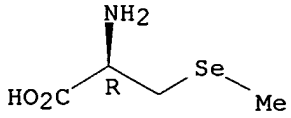
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> e L-Se-methylselenocysteine/cn

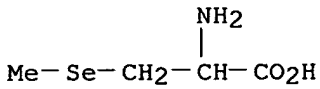
E1	1	L-SDDCTP/CN
E2	1	L-SE/CN
E3	0 -->	L-SE-METHYLSELENOCYSTEINE/CN
E4	1	L-SEC-AMYL ALCOHOL/CN
E5	1	L-SECURININE/CN
E6	1	L-SELECTIN (BABOON PRECURSOR)/CN
E7	1	L-SELECTIN (CATTLE PRECURSOR REDUCED)/CN
E8	1	L-SELECTIN (HUMAN CLONE 9628221 GENE SELL REFERENCE ISOFORM) /CN
E9	1	L-SELECTIN (HUMAN CLONE B125 LEUKOCYTE ADHESION MOLECULE PRE CURSOR REDUCED)/CN
E10	1	L-SELECTIN (HUMAN GENE SELL ISOFORM 1)/CN
E11	1	L-SELECTIN (HUMAN GENE SELL ISOFORM 10)/CN

```
E12          1     L-SELECTIN (HUMAN GENE SELL ISOFORM 11)/CN

=> e methylselenocysteine/cn
E1           1     METHYLSELENOCYANATE/CN
E2           1     METHYLSELENOCYANIDE/CN
E3           2 --> METHYLSELENOCYSTEINE/CN
E4           1     METHYLSELENOL/CN
E5           1     METHYLSELENOMAGNESIUM BROMIDE/CN
E6           1     METHYLSELENOMAGNESIUM IODIDE/CN
E7           1     METHYLSELENOMETHIONINE/CN
E8           1     METHYLSELENOMETHYLLITHIUM/CN
E9           1     METHYLSELENYL CHLORIDE/CN
E10          1     METHYLSELONOCHOLINE/CN
E11          1     METHYLSEMISQUARIC ACID ION(1-)/CN
E12          1     METHYLSILAISONITRILE/CN

=> e3
L13          2 METHYLSELENOCYSTEINE/CN

=> d l13 1-2

L13  ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2003 ACS on STN
RN   26046-90-2  REGISTRY
CN   L-Alanine, 3-(methylseleno)- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Alanine, 3-(methylselenyl)-, L- (8CI)
OTHER NAMES:
CN   3-(Methylseleno)-L-alanine
CN   Methylseleno-L-cysteine
CN   Methylselenocysteine
CN   Se-Methylselenocysteine
FS   STEREOSEARCH
MF   C4 H9 N O2 Se
LC   STN Files:   AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT,
       CHEMCATS, CSCHEM, DDFU, DRUGU, TOXCENTER, USPATFULL
         (*File contains numerically searchable property data)

Absolute stereochemistry.
```




```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**

             80 REFERENCES IN FILE CA (1907 TO DATE)
             80 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L13  ANSWER 2 OF 2  REGISTRY  COPYRIGHT 2003 ACS on STN
RN   2574-71-2  REGISTRY
CN   Alanine, 3-(methylseleno)- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Alanine, 3-(methylselenyl)- (6CI, 7CI, 8CI)
OTHER NAMES:
CN   DL-Se-methylselenocysteine
CN   Methylselenocysteine
CN   NSC 319053
CN   Selenocysteine, Se-methyl-
DR   26145-42-6
MF   C4 H9 N O2 Se
```

LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, CHEMCATS, MEDLINE, TOXCENTER
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

34 REFERENCES IN FILE CA (1907 TO DATE)
34 REFERENCES IN FILE CAPLUS (1907 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	8.38	39.78

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.65

FILE 'CAPLUS' ENTERED AT 12:07:01 ON 08 OCT 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 8 Oct 2003 VOL 139 ISS 15
FILE LAST UPDATED: 7 Oct 2003 (20031007/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l13
L14 112 L13

=> l13/prep
112 L13
3060787 PREP/RL
L15 10 L13/PREP
(L13 (L) PREP/RL)

=> d l15 1-10 ti

L15 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Soil methylation-demethylation pathways for metabolism of plant-derived

selenoamino acids

L15 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI A method of using synthetic L-Se-methylselenocysteine as a nutriceutical

L15 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Chemoprevention of mammary cancer with Se-Allylselenocysteine and other selenoamino acids in the rat

L15 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Synthesis and structure characterization of selenium metabolites

L15 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Synthesis of Novel Se-Substituted Selenocysteine Derivatives as Potential Kidney Selective Prodrugs of Biologically Active Selenol Compounds: Evaluation of Kinetics of .beta.-Elimination Reactions in Rat Renal Cytosol

L15 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Chemical form of selenium, critical metabolites, and cancer prevention

L15 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Preparation of sulfur and selenium amino acids with microbial pyridoxal phosphate enzymes

L15 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Selenium-containing amino acids

L15 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Enzymatic synthesis of selenium-substituted L-selenocysteine with tryptophan synthase

L15 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Selenoamino acids

=> d l15 1-10 ti fbib abs

L15 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Soil methylation-demethylation pathways for metabolism of plant-derived selenoamino acids
AN 2002:947285 CAPLUS
DN 138:136504
TI Soil methylation-demethylation pathways for metabolism of plant-derived selenoamino acids
AU Martens, Dean A.; Suarez, Donald L.
CS Southwest Watershed Research Center, Agricultural Research Service, U.S. Department of Agriculture, Tucson, AZ, 85719, USA
SO ACS Symposium Series (2003), 835(Biogeochemistry of Environmentally Important Trace Elements), 355-369
CODEN: ACSMC8; ISSN: 0097-6156
PB American Chemical Society
DT Journal
LA English
AB There is conflicting field information about Se toxicity in waterfowl and fish, based on criteria of total Se concn. At least part of this uncertainty is due to the difference in toxicity assocd. with various Se species. There is toxicity data on the selenoamino acid selenomethionine (SeMet) to avian species, but little is known on the environmental transformations of SeMet and the possible intermediates of org. Se decompn. To det. the potential decompn. of Se amino acids, methylation and demethylation pathway intermediates for the transformations of sulfur (S) amino acids, identified from aerobic marine sediments, were compared

to potential analog Se intermediates synthesized for this study. Two terrestrial soils with apparently different pathways for metabolizing SeMet were treated with 25 .mu.g S intermediate-S g-1 soil and the soil headspace analyzed for the methylation pathway gas dimethylsulfide (DMS) or the demethylation pathway gas dimethyldisulfide (DMDS). Addn. of S-methylmethionine (MMet), and dimethylsulfoniopropionic acid (DMSP) to the Panhill and Panoche soils resulted in only DMS evolution; addn. of 3-(methylthio)propionic acid (MTP) resulted in DMDS in the soils and 3-mercaptopropionic acid (MCP) addn. was not volatilized confirming that terrestrial soil S pathways are similar to documented marine pathways. The Panhill soil evolved only DMDS as a result of the methionine (Met) demethylation pathway and the Panoche soil evolved only DMS from the methylation of Met. The evolution of Se gases dimethylselenide (DMSe) and dimethyldiselenide (DMDSe) from addn. of SeMet, methylselenomethionine (MSeMet), and dimethylselenopropionic acid (DMSeP) followed the same pattern as noted with the S products. DMSe evolved from a methylation pathway and DMDSe evolved from a demethylation metab. Selenocystine (SeCys) and a methylated selenocysteine (MSeCys) added to the two soils showed limited volatilization as DMSe. A large portion of the Se not volatilized from soil was found as a non-amino acid org. selenide compd.(s) and these unidentified intermediate compds. may be present in significant concns. in some environments. The different metabolic pathways of Se in soils may explain why in certain waterfowl areas Se-induced problems have not been found where predicted based on total Se concns.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI A method of using synthetic L-Se-methylselenocysteine as a nutriceutical
AN 2002:364013 CAPLUS
DN 136:369993
TI A method of using synthetic L-Se-methylselenocysteine as a nutriceutical
IN Spallholz, Julian E.; Reid, Ted W.; Walkup, Robert D.
PA Pharmase, Incorporated, USA
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1205471	A1	20020515	EP 2001-103018	20010208
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
				US 2000-677563 A	20001002
	EP 1077209	A1	20010221	EP 2000-117106	20000809
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
				US 1999-376073 A	19990816
	US 2003083383	A1	20030501	US 2002-288024	20021105
				US 1999-376073 B2	19990816
				US 2000-677563 A3	20001002

OS CASREACT 136:369993
AB The invention describes the synthesis and use of L-Se-methylselenocysteine (I), a nutriceutical which is less toxic than L-selenomethionine towards normal cells. The synthesis involves mixing N-(tert-butoxycarbonyl)-L-serine with a dialkyl diazodicarboxylate and at least one of a trialkylphosphine, triarylphosphine and phosphite to form a mixt. contg. N-(tert-butoxycarbonyl)-L-serine .beta.-lactone, addn. of methylselenol or a salt, and deprotection. This synthesis significantly improves the manufg. efficiency and utility I., a naturally occurring rare form of org. selenium. I formed in this manner may be used as a nutriceutical in the

diets of humans or animals for various beneficial purposes, such as, for example, to prevent or reduce the risk of developing cancer. A bar graph which compares the effect of I and L-selenomethionine on the growth of normal rabbit fibroblasts is given.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Chemoprevention of mammary cancer with Se-Allylselenocysteine and other selenoamino acids in the rat
AN 2000:69937 CAPLUS
DN 132:307715
TI Chemoprevention of mammary cancer with Se-Allylselenocysteine and other selenoamino acids in the rat
AU Ip, Clement; Zhu, Zongjian; Thompson, Henry J.; Lisk, Donald; Ganther, Howard E.
CS Department of Experimental Pathology, Roswell Park Cancer Institute, Buffalo, NY, 14263, USA
SO Anticancer Research (1999), 19(4B), 2875-2880
CODEN: ANTRD4; ISSN: 0250-7005
PB International Institute of Anticancer Research
DT Journal
LA English
AB The present study examd. the mammary cancer chemopreventive activity of Se-methylselenocysteine, Se-propylselenocysteine and Se-allylselenocysteine in the rat methylnitrosourea (MNU) model. Each compd. was supplemented in the diet at a level of 2 ppm Se for the entire duration of the expt. after MNU dosing. Se-allylselenocysteine was the most active and caused a redn. in total tumor yield by 86%. Se-methylselenocyteine and Se-propylselenocysteine were similar but less effective, and both produced a decrease of about 50% in tumorigenesis. All 3 compds. were very well absorbed through the gastrointestinal tract. However, more Se was excreted in urine after gavaging with Se-propylselenocysteine or Se-allylselenocysteine compared with Se-methylselenocysteine. Anal. of Se in the mammary gland and other organs showed that tissue Se levels did not appear to be correlated with differences in chemopreventive activity. A lyase activity capable of catalyzing scission of the Se-alkyl group from the remainder of the amino acid was demonstrated. This activity was high in liver and kidney, but relatively low in mammary gland and intestine. Minimal variations in enzyme activity towards each of the substrates were obsd. These results support the concept that Se-alkylselenoamino acids could be used as precursors for delivering the Se-alkyl moiety and that intrinsic chem. differences in the Se-alkyl substituent of the test compds. are likely to be important determinants of their biol. effects.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Synthesis and structure characterization of selenium metabolites
AN 1998:278784 CAPLUS
DN 129:64137
TI Synthesis and structure characterization of selenium metabolites
AU Fan, Teresa W. -M.; Lane, Andrew N.; Martens, Dean; Higashi, Richard M.
CS Department of Land, Air and Water Resources, University of California, Davis, CA, 95616-8627, USA
SO Analyst (Cambridge, United Kingdom) (1998), 123(5), 875-884
CODEN: ANALAO; ISSN: 0003-2654
PB Royal Society of Chemistry
DT Journal
LA English
AB The difficulty in detg. trace-level organoseleno metabolites and the lack of com. available stds. have been major barriers to a mol.-level

understanding of Se biogeochem., ecotoxicol. and nutrition, particularly in aquatic ecosystems. To overcome the problem, three important precursors of volatile alkyl selenides were synthesized, including dimethylselenonium propionate (DMSeP), which has only been postulated to exist in nature. A combination of 2-D multinuclear NMR, electro-spray MS and GC-MS methods was employed to identify DMSeP, methylselenomethionine and methylselenocysteine in synthetic prepns. without extensive clean-up. An alk. hydroelimination test coupled with GC-MS anal. for the release pattern of di-Me selenide (DMSe) and di-Me diselenide (DMDSe) was developed for a diagnostic detn. of the three products. The DMSe release pattern of DMSeP confirmed the presence of a DMSeP-like compd. in the biomass of 100 mg l-1 Se-treated Chlorella investigated previously. Silylation-GC-MS was tested for the detn. of selenomethionine, selenocysteine and methylselenocysteine in a std. mixt. with a detection limit of better than 1 pmol per 0.5 .mu.l injection vol. for selenomethionine. This method was applied to the anal. of the acid digest of the proteinaceous fraction of the Chlorella culture. Selenomethionine was found to contain >70% of the protein-bound Se, although this constituted only a minor fraction of the total Se in the Chlorella biomass. These findings revealed the metabolic relationship between Se volatilization and selenomethionine incorporation into proteins. This knowledge is crit. to advancement in Se biogeochem., ecotoxicol. and the development of in situ bioremediation schemes.

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN

TI Synthesis of Novel Se-Substituted Selenocysteine Derivatives as Potential Kidney Selective Prodrugs of Biologically Active Selenol Compounds: Evaluation of Kinetics of .beta.-Elimination Reactions in Rat Renal Cytosol

AN 1996:241974 CAPLUS

DN 124:306525

TI Synthesis of Novel Se-Substituted Selenocysteine Derivatives as Potential Kidney Selective Prodrugs of Biologically Active Selenol Compounds: Evaluation of Kinetics of .beta.-Elimination Reactions in Rat Renal Cytosol

AU Andreadou, Ioanna; Menge, Wiro M. P. B.; Commandeur, Jan N. M.; Worthington, Eduard A.; Vermeulen, Nico P. E.

CS Leiden Amsterdam Center for Drug Research, Vrije Universiteit Amsterdam, Amsterdam, 1081 HV, Neth.

SO Journal of Medicinal Chemistry (1996), 39(10), 2040-6
CODEN: JMCMAR; ISSN: 0022-2623

PB American Chemical Society

DT Journal

LA English

AB Eighteen Se-substituted selenocysteine derivs. were prepd. as potential kidney selective prodrugs which can be activated by renal cysteine conjugate .beta.-lyase to selenium-contg. chemoprotectants or antitumor agents. Selenocysteine derivs. with aliph. and benzylic Se-substituents were synthesized by reducing selenocystine to selenocysteine followed by a reaction with the corresponding alkyl and benzyl halogenides. Selenocysteine derivs. with arom. Se-substituents were synthesized by reaction of .beta.-chloroalanine with substituted phenylselenol compds., which were formed by reducing substituted di-Ph diselenides by NaBH4. The enzyme kinetic parameters (apparent Km and Vmax) of the .beta.-elimination reaction of the selenocysteine conjugates were studied in rat renal cytosol. The results suggest that Se-substituted L-selenocysteine conjugates are extremely good substrates for renal cysteine conjugate .beta.-lyases as indicated by low apparent Km and high Vmax values. The benzyl-substituted Se-conjugates appeared to be better substrates than the phenyl- and alkyl-substituted Se-conjugates. Corresponding L-cysteine S-conjugates were too poor substrates to obtain proper enzyme kinetics.

Recently, local activation of cysteine S-conjugates by renal cysteine conjugate .beta.-lyases was proposed as a new strategy to target antitumor agents to the kidney. Se-substituted selenocysteine conjugates may be more promising prodrugs because these are much better substrates for .beta.-lyase.

L15 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Chemical form of selenium, critical metabolites, and cancer prevention
AN 1991:135663 CAPLUS
DN 114:135663
TI Chemical form of selenium, critical metabolites, and cancer prevention
AU Ip, Clement; Hayes, Cassandra; Budnick, Rose Marie; Ganther, Howard E.
CS Dep. Breast Surg., Roswell Park Cancer Inst., Buffalo, NY, 14263, USA
SO Cancer Research (1991), 51(2), 595-600
CODEN: CNREA8; ISSN: 0008-5472
DT Journal
LA English
AB Methylated selenides are prominent metabolites at the dietary levels used for obtaining anticarcinogenic effects with selenium. The present study reports the chemopreventive activities of 2 novel selenium compds. Se-methylselenocysteine and di-Me selenoxide, in the rat dimethylbenz(a)anthracene-induced mammary tumor model. Other treatment groups were supplemented with either selenite or selenocystine for comparative purposes. Each selenium compd. was tested at different levels and was given to the animal starting 1 wk before dimethylbenz(a)anthracene administration and continued until sacrifice. Results of the carcinogenesis expts. showed that the relative efficacy with the four compds. was Se-methylselenocysteine > selenite > selenocystine > di-Me selenoxide. In correlating the chem. form and metab. of these selenium compds. with their anticarcinogenic activity, it is concluded that: (a) selenium compds. that are able to generate a steady stream of methylated metabolites, particularly the monomethylated species, are likely to have good chemopreventive potential; (b) anticarcinogenic activity is lower for selenoamino acids, such as selenocysteine following conversion from selenocystine, which have an escape mechanism via random, nonstoichiometric incorporation into proteins; and (c) forms of selenium, as exemplified by dimethylselenoxide, which are metabolized rapidly and quant. to di-Me selenide and trimethylselenonium and excreted, are likely to be poor choices. A sep. bioavailability study using Se-methylseneocysteine, di-Me selenoxide, and trimethylselenonium as the starting compds. for delivering selenium with one, two, or three Me groups was undertaken and the ability of these compds. to restore glutathione peroxidase activity in selenium-depleted animals was measured. All three compds. were able to fully replete this enzyme, although with a wide range of efficiency (Se-methylselenocysteine > dmethyl selenoxide > trimethylselenonium), suggesting that complete demethylation to inorg. selenium is a normal process of selenium metab. However, the degree to which this occurs under chemoprevention conditions would argue against the involvement of selenoproteins in the anticarcinogenic action of these selenium compds.

L15 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Preparation of sulfur and selenium amino acids with microbial pyridoxal phosphate enzymes
AN 1988:128044 CAPLUS
DN 108:128044
TI Preparation of sulfur and selenium amino acids with microbial pyridoxal phosphate enzymes
AU Esaki, Nobuyoshi; Soda, Kenji
CS Inst. Chem. Res., Kyoto Univ., Uji, 611, Japan
SO Methods in Enzymology (1987), 143(Sulfur Sulfur Amino Acids), 291-7
CODEN: MENZAU; ISSN: 0076-6879
DT Journal

LA English
AB The prepn. of S-substituted L-homocysteines with L-methionine .gamma.-lyase (I), S-substituted L-cysteines and Se-substituted L-selenocysteines with tryptophan synthase, L-selenocystine and -homocystine with O-acetylhomoserine sulfhydrylase, and deuterated and tritiated L-methionine and S-methyl-L-cysteine with I are illustrated.

L15 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Selenium-containing amino acids
AN 1984:4789 CAPLUS
DN 100:4789
TI Selenium-containing amino acids
PA Mitsui Toatsu Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 58146286	A2	19830831	JP 1982-28108	19820225
JP 02054076	B4	19901120		
			JP 1982-28108	19820225

AB A compn. contg. methaneselenol [6486-05-1] or benzylselenol [16645-12-8] and L-serine [56-45-1] is treated with tryptophan synthetase [9014-52-2] to produce Se-methylselenocysteine [26046-90-2] or Se-benzylselenocysteine [2575-74-8]. Thus, a compn. contg. L-serine 30, methaneselenol 50, pyridoxal phosphate 0.01 mM, and tryptophan synthetase 10 mg/dL was shaken at 30.degree. for 24 h. The medium contained Se-methylselenocysteine with a mol. yield rate of 28%.

L15 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Enzymatic synthesis of selenium-substituted L-selenocysteine with tryptophan synthase
AN 1983:590469 CAPLUS
DN 99:190469
TI Enzymatic synthesis of selenium-substituted L-selenocysteine with tryptophan synthase
AU Esaki, Nobuyoshi; Tanaka, Hidehiko; Miles, Edith W.; Soda, Kenji
CS Inst. Chem. Res., Kyoto Univ., Uji, 611, Japan
SO FEBS Letters (1983), 161(2), 207-9
CODEN: FEBLAL; ISSN: 0014-5793
DT Journal
LA English
AB When L-serine was incubated with the purified .alpha.2.beta.2 complex of tryptophan synthase (EC 4.2.1.20) from Escherichia coli in the presence of a std. reaction mixt. contg. .alpha.-tolueneselenol, Se-benzyl-L-5-selenocysteine was formed with a yield of 44%, based on the L-serine used. The product was identified by several physicochem. criteria, including NMR. L-Serine was also converted to Se-methyl-L-selenocysteine by this method with methaneselenol as a reactant. The yield was 16%, based on L-serine. The reactivities of selenols were compared to those of thiols in a reaction system in which L-serine was used as a substrate. The specific activities of tryptophan synthase in .beta.-replacement reactions with .alpha.-tolueneselenol and methaneselenol were 0.96 and 0.77, resp., whereas those with .alpha.-toluenethiol and methanethiol were 3.2 and 0.61, resp. Possible reasons for these reactivities are discussed.

L15 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2003 ACS on STN
TI Selenoamino acids
AN 1979:522166 CAPLUS
DN 91:122166
TI Selenoamino acids

IN Sayuda, Kenji; Tanaka, Hidehiko
PA Ajinomoto Co., Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 54052033	A2	19790424	JP 1977-117664	19770929
	JP 57008717	B4	19820217		
				JP 1977-117664	19770929

AB Eight selenoamino acids RSe(CH2)nCH(NH2)CO2H (R = org. residues; n = 1, 2) were prepd. by reaction of R1(CH2)nCH(NH2)CO2H [R1 = halo, R2O (R2 = H, alkyl), R2S, R2SO, R2SO2] with RSeH in aq. media in the presence of methioninase. Thus, Pseudomonas ovalis IFO 3738 was cultured on 1 kg of broth (pH 7.2) contg. L-methionine 0.25, urea 0.1, peptone 0.1, glycerol 0.1, KH2PO4 0.1, K2HPO4 0.1, MgSO4.7H2O 0.01, and yeast ext. 0.025 g/dL 18 h at 28.degree. to give 2.2 kg cells, which were crushed in H3PO4 buffer and the supernatant treated on DEAE-cellulose and Sephadex G-200 to give 280 mg enzyme protein. A mixt. of 0.1M L-methionine (in 0.2M H3PO4 buffer at pH 8.0), 0.1 mL 1M PhSeH (in EtOH), 0.5 mL 10-5M pyridoxal phosphate (in 0.02M H3PO4 buffer at pH 8.0), and 1 mL of the enzyme liq. (50 .mu.g of protein/mL) was kept for 2 h at 37.degree. under N with addn. of 3 .times. 200 .mu.L of the enzyme liq. and 3 .times. 100 .mu.L the PhSeH liq. and the whole kept 25 min at 100.degree. to give 4.3 mg .gamma.-phenylseleno-.alpha.-aminobutyric acid [71128-79-5].

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	32.67	72.45

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-6.51	-7.16

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DICTIONARY FILE UPDATES: 7 OCT 2003 HIGHEST RN 600637-01-2

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Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=>
Uploading 10065677 lgalananine me ester.str

L16 STRUCTURE UPLOADED

=> d l16
L16 HAS NO ANSWERS
L16 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.

=> search l16 sss sam
SAMPLE SEARCH INITIATED 12:12:51 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 1801 TO ITERATE

55.5% PROCESSED 1000 ITERATIONS 2 ANSWERS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

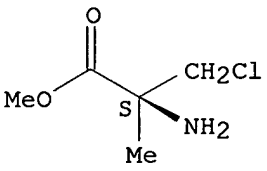
FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 33475 TO 38565
PROJECTED ANSWERS: 2 TO 185

L17 2 SEA SSS SAM L16

=> d scan

L17 2 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN D-Alanine, 3-chloro-2-methyl-, methyl ester, hydrochloride (9CI)
MF C5 H10 Cl N O2 . Cl H

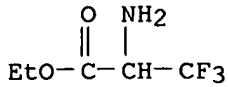
Absolute stereochemistry.



● HCl

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):2

L17 2 ANSWERS REGISTRY COPYRIGHT 2003 ACS on STN
IN Alanine, 3,3,3-trifluoro-, ethyl ester, hydrochloride (9CI)
MF C5 H8 F3 N O2 . Cl H



ALL ANSWERS HAVE BEEN SCANNED

=> search l16 sss full
FULL SEARCH INITIATED 12:13:26 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 35539 TO ITERATE

100.0% PROCESSED 35539 ITERATIONS 287 ANSWERS
SEARCH TIME: 00.00.01

L18 287 SEA SSS FUL L16

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	148.55	221.00

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-7.16

FILE 'CAPLUS' ENTERED AT 12:13:32 ON 08 OCT 2003
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FILE COVERS 1907 - 8 Oct 2003 VOL 139 ISS 15
FILE LAST UPDATED: 7 Oct 2003 (20031007/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d his

(FILE 'HOME' ENTERED AT 11:56:41 ON 08 OCT 2003)

FILE 'STNGUIDE' ENTERED AT 11:56:53 ON 08 OCT 2003

FILE 'HOME' ENTERED AT 11:57:00 ON 08 OCT 2003

```
     FILE 'STNGUIDE' ENTERED AT 11:57:05 ON 08 OCT 2003

     FILE 'CAPLUS' ENTERED AT 11:57:35 ON 08 OCT 2003
                ACT CHLOROALA/A
               ---------
L1              STR
L2   (          4)SEA FILE=REGISTRY EXA FUL L1
L3             14 SEA FILE=CAPLUS ABB=ON  PLU=ON  L2
               ---------
                ACT MESEALA/A
               ---------
L4              STR
L5   (        102)SEA FILE=REGISTRY SSS FUL L4
L6            241 SEA FILE=CAPLUS ABB=ON  PLU=ON  L5
               ---------

     FILE 'REGISTRY' ENTERED AT 11:58:15 ON 08 OCT 2003
                E DIMETHYLDISELENIDE/CN
                E DIMETHYL DISELENIDE/CN
L7           2128 \E3
L8           2128 \E3
L9              1 E3
                E METHYL SELENOL
                E METHYL SELENOL/CN
                E METHYL SELENIDE/CN
L10             1 E3

     FILE 'CAPLUS' ENTERED AT 12:00:49 ON 08 OCT 2003
L11           356 L9
L12             8 L11 AND L6

     FILE 'REGISTRY' ENTERED AT 12:06:03 ON 08 OCT 2003
                E L-SE-METHYLSELENOCYSTEINE/CN
                E METHYLSELENOCYSTEINE/CN
L13             2 E3

     FILE 'CAPLUS' ENTERED AT 12:07:01 ON 08 OCT 2003
L14           112 L13
L15            10 L13/PREP

     FILE 'REGISTRY' ENTERED AT 12:12:20 ON 08 OCT 2003
L16             STRUCTURE UPLOADED
L17             2 SEARCH L16 SSS SAM
L18           287 SEARCH L16 SSS FULL

     FILE 'CAPLUS' ENTERED AT 12:13:32 ON 08 OCT 2003

=> l18 and l14
            260 L18
L19           0 L18 AND L14

=> logoff hold
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                 3.75     224.75

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
                                                   ENTRY    SESSION
CA SUBSCRIBER PRICE                                 0.00      -7.16

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 12:19:02 ON 08 OCT 2003
```

```
Connecting via Winsock to STN



Welcome to STN International!  Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 12:57:33 ON 08 OCT 2003
FILE 'CAPLUS' ENTERED AT 12:57:33 ON 08 OCT 2003
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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    3.75     224.75

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                    0.00      -7.16

=> logoff hold
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    3.75     224.75

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                    0.00      -7.16

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 12:57:46 ON 08 OCT 2003

Connecting via Winsock to STN



Welcome to STN International!  Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 13:15:28 ON 08 OCT 2003
FILE 'CAPLUS' ENTERED AT 13:15:28 ON 08 OCT 2003
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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    3.75     224.75

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                    0.00      -7.16

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    5.42     226.42
```

```
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
                                                     ENTRY    SESSION
CA SUBSCRIBER PRICE                                   0.00      -7.16

FILE 'REGISTRY' ENTERED AT 13:17:38 ON 08 OCT 2003
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STRUCTURE FILE UPDATES:     7 OCT 2003  HIGHEST RN 600637-01-2
DICTIONARY FILE UPDATES:    7 OCT 2003  HIGHEST RN 600637-01-2

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  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> e selenocysteine/cn
E1            1     SELENOCYSTEAMINE/CN
E2            1     SELENOCYSTEIC ACID/CN
E3            1 --> SELENOCYSTEINE/CN
E4            1     SELENOCYSTEINE .BETA.-LYASE/CN
E5            1     SELENOCYSTEINE INSERTION SEQUENCE BINDING PROTEIN 2 (HUMAN C
                    LONE A11)/CN
E6            1     SELENOCYSTEINE LYASE/CN
E7            1     SELENOCYSTEINE LYASE (AMINOTRANSFERASE OF NIFS FAMILY) (CLOS
                    TRIDIUM ACETOBUTYLICUM STRAIN ATCC 824 GENE CAC2805)/CN
E8            1     SELENOCYSTEINE LYASE (BLOCHMANNIA FLORIDANUS GENE SUFS)/CN
E9            1     SELENOCYSTEINE LYASE (COXIELLA BURNETII STRAIN RSA 493 GENE
                    CSDB)/CN
E10           1     SELENOCYSTEINE LYASE (ESCHERICHIA COLI CFT073 STRAIN CFT073
                    GENE C2075)/CN
E11           1     SELENOCYSTEINE LYASE (ESCHERICHIA COLI STRAIN O157:H7 GENE E
                    CS2387)/CN
E12           1     SELENOCYSTEINE LYASE (HUMAN CLONE MGC:3039 IMAGE:3163969)/CN

=> e3
L20           1 SELENOCYSTEINE/CN

=> d l20

L20  ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2003 ACS on STN
RN   3614-08-2  REGISTRY
CN   Alanine, 3-selenyl- (6CI, 7CI, 8CI, 9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   3-Selenyl-DL-alanine
CN   DL-Selenocysteine
CN   Selenocysteine
DR   18312-66-8
MF   C3 H7 N O2 Se
LC   STN Files:   AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CAOLD, CAPLUS, CEN, CIN, EMBASE, HSDB*, NIOSHTIC, PROMT,
       RTECS*, TOXCENTER, USPAT2, USPATFULL
```
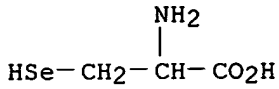

(*File contains numerically searchable property data)



498 REFERENCES IN FILE CA (1907 TO DATE)
21 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
498 REFERENCES IN FILE CAPLUS (1907 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	6.30	232.72

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-7.16

FILE 'CAPLUS' ENTERED AT 13:18:10 ON 08 OCT 2003
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FILE COVERS 1907 - 8 Oct 2003 VOL 139 ISS 15
FILE LAST UPDATED: 7 Oct 2003 (20031007/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l20
L21 500 L20

=> l20/prep
500 L20
3060787 PREP/RL
L22 24 L20/PREP
(L20 (L) PREP/RL)

=> d l22 20-24 ti

L22 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
TI Organoselenium chemistry. Alkylation of acid, ester, amide, and ketone enolates with bromomethyl benzyl selenide and sulfide. Preparation of selenocysteine derivatives

L22 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN

TI Synthesis of L-selenodjenkolate and its degradation with methionine .gamma.-lyase

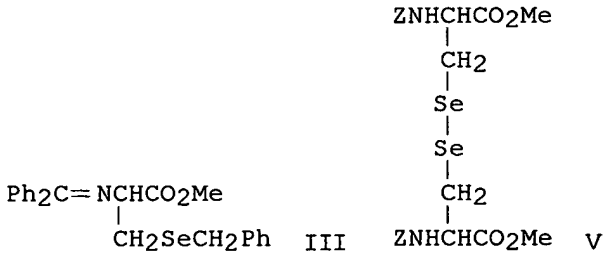
L22 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
TI Somatostatin and somatostatin analog

L22 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
TI Usefulness of N-ethylmaleimide in the identification of 75Se-labeled selenocysteine

L22 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
TI Synthesis of selno-amino acids in cell-free extracts of Candida albicans

=> d l22 20 ti fbib abs

L22 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2003 ACS on STN
TI Organoselenium chemistry. Alkylation of acid, ester, amide, and ketone enolates with bromomethyl benzyl selenide and sulfide. Preparation of selenocysteine derivatives
AN 1986:460921 CAPLUS
DN 105:60921
TI Organoselenium chemistry. Alkylation of acid, ester, amide, and ketone enolates with bromomethyl benzyl selenide and sulfide. Preparation of selenocysteine derivatives
AU Reich, Hans J.; Jasperse, Craig P.; Renga, James M.
CS Dep. Chem., Univ. Wisconsin, Madison, WI, 53706, USA
SO Journal of Organic Chemistry (1986), 51(15), 2981-8
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
OS CASREACT 105:60921
GI



AB Bromomethyl benzyl selenide (I) was prepd. and used for the alkylation of carboxylic acid and amide dianions and ketones and ester enolates. Thus, PhCH2CO2H was alkylated with I in the presence of LDA to give PhCH2SeCH2CHPhCO2H. Clean reaction could not be achieved for ketones and esters whose alkylation products were subject to selenolate elimination. I reacted 18 times more slowly than bromomethyl benzyl sulfide (II), which alkylated ketones in fair yield even in cases where the selenide failed. The II alkylation products gave .alpha.-methylene ketones upon oxidn. to sulfoxide and thermolysis. Protected amino acid enolates (valine, alanine, and glycine) were alkylated with I. Thus, glycine deriv. Ph2C:NCH2CO2Me was alkylated with I to give selenide III. III was N-cleaved and then acylated with PhCH2O2CCl (ZCl) to give PhCH2SeCH2CH(NHZ)CO2Me (IV), which was oxidized by m-CPBA to give ZNHC(:CH2)CO2Me. IV was cleaved by Br2 and then treated with NH2NH2 to give selenocystine V. Halogen reagents (Br2, SO2Cl2) were shown to very efficiently and generally convert benzyl selenides to selenenyl halides,

which were converted to diselenides or selenides by redn. or alkylation.

```
=> logoff hold
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                          ENTRY    SESSION
FULL ESTIMATED COST                                         9.00     241.72

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)              SINCE FILE      TOTAL
                                                          ENTRY    SESSION
CA SUBSCRIBER PRICE                                        -0.65      -7.81

 SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 13:22:45 ON 08 OCT 2003

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LOGINID:SSSPTA1623PAZ

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


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 NEWS  1          Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2          "Ask CAS" for self-help around the clock
 NEWS  3  SEP 09  CA/CAplus records now contain indexing from 1907 to the
                  present
 NEWS  4  Jul 15  Data from 1960-1976 added to RDISCLOSURE
 NEWS  5  Jul 21  Identification of STN records implemented
 NEWS  6  Jul 21  Polymer class term count added to REGISTRY
 NEWS  7  Jul 22  INPADOC: Basic index (/BI) enhanced; Simultaneous Left and
                  Right Truncation available
 NEWS  8  AUG 05  New pricing for EUROPATFULL and PCTFULL effective
                  August 1, 2003
 NEWS  9  AUG 13  Field Availability (/FA) field enhanced in BEILSTEIN
 NEWS 10  AUG 15  PATDPAFULL: one FREE connect hour, per account, in
                  September 2003
 NEWS 11  AUG 15  PCTGEN: one FREE connect hour, per account, in
                  September 2003
 NEWS 12  AUG 15  RDISCLOSURE: one FREE connect hour, per account, in
                  September 2003
 NEWS 13  AUG 15  TEMA: one FREE connect hour, per account, in
                  September 2003
 NEWS 14  AUG 18  Data available for download as a PDF in RDISCLOSURE
 NEWS 15  AUG 18  Simultaneous left and right truncation added to PASCAL
 NEWS 16  AUG 18  FROSTI and KOSMET enhanced with Simultaneous Left and Righ
                  Truncation
 NEWS 17  AUG 18  Simultaneous left and right truncation added to ANABSTR
 NEWS 18  SEP 22  DIPPR file reloaded
 NEWS 19  SEP 25  INPADOC: Legal Status data to be reloaded
 NEWS 20  SEP 29  DISSABS now available on STN

 NEWS EXPRESS  OCTOBER 01 CURRENT WINDOWS VERSION IS V6.01a, CURRENT
               MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
               AND CURRENT DISCOVER FILE IS DATED 23 SEPTEMBER 2003
 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
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 NEWS INTER    General Internet Information
 NEWS LOGIN    Welcome Banner and News Items
 NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
 NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
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  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 08:25:06 ON 09 OCT 2003

=> FIL STNGUIDE
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILE 'STNGUIDE' ENTERED AT 08:25:18 ON 09 OCT 2003
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AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Oct  3, 2003 (20031003/UP).

=> DIS SAVED
NAME             CREATED      NOTES/TITLE
--------------   -----------  -----------------------------------
ACRYLMETATH/A    TEMP         67 ANSWERS IN FILE CAPLUS
ALKYLATIN/L      13 DEC 2001  9 L-NUMBERS
CHLOROALA/A      TEMP         14 ANSWERS IN FILE CAPLUS
ESTERODOR/L      05 SEP 2002  42 L-NUMBERS
HYDROXAMINES/A   TEMP         8641 ANSWERS IN FILE CAPLUS
INDIUMCL3/A      30 MAY 2001  1 ANSWER IN FILE REGISTRY
LTWENTAUGFOR/A   04 AUG 2001  72 ANSWERS IN FILE CAPLUS
MESEALA/A        TEMP         241 ANSWERS IN FILE CAPLUS
METATHESIS/L     TEMP         36 L-NUMBERS
METHIDES/A       TEMP         500 ANSWERS IN FILE CAPLUS
NEOTAMECRYST/A   24 APR 2001  59 ANSWERS IN FILE CAPLUS
NVLARMFULGEN/A   19 APR 2001  196 ANSWERS IN FILE REGISTRY
POHBENZALDEH/A   10 JUL 2001  5519 ANSWERS IN FILE CAPLUS
POLYINHBT/L      TEMP         15 L-NUMBERS
PROSTACMPD15/A   01 AUG 2001  34 ANSWERS IN FILE CAPLUS
SELENOCMPDS/L    TEMP         13 L-NUMBERS
STILLEAPP/L      07 JAN 2002  17 L-NUMBERS
TWOAMINOPOLY/Q   16 APR 2001  UPLOADED STRUCTURE


=> DIS SAVED/S
NO SAVED SDI REQUESTS


=> FIL HOME
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.06       0.27
```

```
FILE 'HOME' ENTERED AT 08:25:59 ON 09 OCT 2003

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.48

FILE 'REGISTRY' ENTERED AT 08:26:08 ON 09 OCT 2003
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DICTIONARY FILE UPDATES:    7 OCT 2003  HIGHEST RN 600637-01-2

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available.  See HELP
PROPERTIES for more information.  See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> e methylselenocysteine/cn
E1            1     METHYLSELENOCYANATE/CN
E2            1     METHYLSELENOCYANIDE/CN
E3            2 --> METHYLSELENOCYSTEINE/CN
E4            1     METHYLSELENOL/CN
E5            1     METHYLSELENOMAGNESIUM BROMIDE/CN
E6            1     METHYLSELENOMAGNESIUM IODIDE/CN
E7            1     METHYLSELENOMETHIONINE/CN
E8            1     METHYLSELENOMETHYLLITHIUM/CN
E9            1     METHYLSELENYL CHLORIDE/CN
E10           1     METHYLSELONOCHOLINE/CN
E11           1     METHYLSEMISQUARIC ACID ION(1-)/CN
E12           1     METHYLSILAISONITRILE/CN

=> e3
L1            2 METHYLSELENOCYSTEINE/CN

=> d l1 1-2

L1   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2003 ACS on STN
RN   26046-90-2  REGISTRY
CN   L-Alanine, 3-(methylseleno)- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   Alanine, 3-(methylselenyl)-, L- (8CI)
OTHER NAMES:
CN   3-(Methylseleno)-L-alanine
CN   Methylseleno-L-cysteine
CN   Methylselenocysteine
CN   Se-Methylselenocysteine
FS   STEREOSEARCH
MF   C4 H9 N O2 Se
LC   STN Files:   AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAPLUS, CASREACT,
       CHEMCATS, CSCHEM, DDFU, DRUGU, TOXCENTER, USPATFULL
```
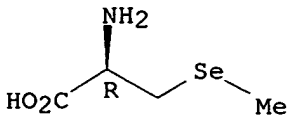

(*File contains numerically searchable property data)

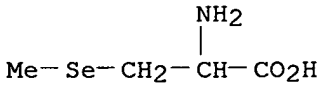
Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

80 REFERENCES IN FILE CA (1907 TO DATE)
80 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L1 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2003 ACS on STN
RN 2574-71-2 REGISTRY
CN Alanine, 3-(methylseleno)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Alanine, 3-(methylselenyl)- (6CI, 7CI, 8CI)
OTHER NAMES:
CN DL-Se-methylselenocysteine
CN **Methylselenocysteine**
CN NSC 319053
CN Selenocysteine, Se-methyl-
DR 26145-42-6
MF C4 H9 N O2 Se
LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, CHEMCATS, MEDLINE, TOXCENTER
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

34 REFERENCES IN FILE CA (1907 TO DATE)
34 REFERENCES IN FILE CAPLUS (1907 TO DATE)
4 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	8.38	8.86

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FILE COVERS 1907 - 9 Oct 2003 VOL 139 ISS 15
FILE LAST UPDATED: 8 Oct 2003 (20031008/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> l1
L2 112 L1

=> amine
238970 AMINE
229162 AMINES
L3 367971 AMINE
(AMINE OR AMINES)

=> l2 and l3
L4 2 L2 AND L3

=> d l4 1-2 ti fbib abs

L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
TI Changes in ornithine decarboxylase activity and polyamine levels in response to eight different forms of selenium
AN 1992:53105 CAPLUS
DN 116:53105
TI Changes in ornithine decarboxylase activity and polyamine levels in response to eight different forms of selenium
AU Thompson, H. J.; Ip, C.; Ganther, H. E.
CS Lab. Nutr. Res., AMC Cancer Res. Cent., Denver, CO, 80214, USA
SO Journal of Inorganic Biochemistry (1991), 44(4), 283-92
CODEN: JIBIDJ; ISSN: 0162-0134
DT Journal
LA English
AB The biol. activity of selenium is known to depend on its chem. form. In this study, eight forms of selenium that differed in oxidn. state or degree of methylation were studied for their acute effects on the activities of ornithine decarboxylase (ODC) and S-adenosylmethionine decarboxylase (AdoMet DC) and on the concns. of the polyamines putrescine, spermidine, and spermine in the liver. The polyamine pathway was studied because it is involved in the control of cell growth and in the cell's response to trophic, carcinogenic, and toxic stimuli, activities that selenium has been reported to affect. Female Sprague Dawley rats were administered 12 .mu.mol Se/kg via i.p. injection and were sacrificed six h later. Injection of sodium selenate, sodium selenite, selenomethionine, Se-methylselenocysteine, selenobetaine, and selenobetaine Me ester resulted in significant increases in liver selenium, whereas injection and dimethylselenoxide and trimethylselenonium chloride did not. ODC activity and AdoMet DC activity were induced by those selenium compds. that also increased liver selenium content, but the magnitude of enzyme induction by those compds. was not correlated with the hepatic concn. of total selenium detd. fluorometrically. Furthermore, the induction of ODC activity by the various forms of selenium did not result in concomitant increases in putrescine, spermidine, and spermine except in the case of selenite. Given that alterations in the metab. of selenium are induced when the level of tissue selenium is evaluated and that the relative abundance of various selenometabolites can be affected by the point of entry of selenium into intermediary metab., these data suggest that the changes that were obsd. in enzyme activities and polyamine levels are likely to be

assocd. with the accumulation of a specific metabolite of selenium.

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2003 ACS on STN
TI The C3-N bond cleavage of 2-amino-3-(N-substituted-amino)-propionic acids catalyzed by L-methionine .gamma.-lyase
AN 1989:91177 CAPLUS
DN 110:91177
TI The C3-N bond cleavage of 2-amino-3-(N-substituted-amino)-propionic acids catalyzed by L-methionine .gamma.-lyase
AU Takada, Harumi; Esaki, Nobuyoshi; Tanaka, Hidehiko; Soda, Kenji
CS Inst. Chem. Res., Kyoto Univ., Uji, 611, Japan
SO Agricultural and Biological Chemistry (1988), 52(11), 2897-901
CODEN: ABCHA6; ISSN: 0002-1369
DT Journal
LA English
AB L-Methionine .gamma.-lyase (EC 4.4.1.11) catalyzes .alpha.,.beta.-elimination of L-2-amino-3-(N-methylamino)propionic acid and L-2-amino-3-(N-hydroxyethylamino)propionic acid to yield pyruvate, NH3, and the corresponding **amines**. These amino acids also undergo the enzymic .beta.-replacement reaction with thiols to produce the corresponding S-substituted cysteines. Thus, L-methionine .gamma.-lyase cleaves a C-N bond in addn. to C-S, C-Se, and C-O bonds at the .beta. position of amino acids by elimination and replacement reactions. A linear relationship between the reactivity, (Vmax/Km) and the pKa value of the conjugated acid of the leaving group has been found for Se-methyl-L-selenocysteine, S-methyl-L-cysteine, and O-methyl-L-serine. However, L-2-amino-3-(N-methylamino)propionic acid has shown lower reactivity than that expected from the pKa value of methylammonium ions.

```
=> recemiz? or racemis?
            35 RECEMIZ?
            31 RACEMIS?
L5          66 RECEMIZ? OR RACEMIS?

=> racemiz? or racemis?
         10416 RACEMIZ?
            31 RACEMIS?
L6       10436 RACEMIZ? OR RACEMIS?

=> d his

     (FILE 'HOME' ENTERED AT 08:25:06 ON 09 OCT 2003)

     FILE 'STNGUIDE' ENTERED AT 08:25:18 ON 09 OCT 2003

     FILE 'HOME' ENTERED AT 08:25:59 ON 09 OCT 2003

     FILE 'REGISTRY' ENTERED AT 08:26:08 ON 09 OCT 2003
                E METHYLSELENOCYSTEINE/CN
L1            2 E3

     FILE 'CAPLUS' ENTERED AT 08:27:04 ON 09 OCT 2003
L2          112 L1
L3       367971 AMINE
L4            2 L2 AND L3
L5           66 RECEMIZ? OR RACEMIS?
L6        10436 RACEMIZ? OR RACEMIS?

=> l2 and l6
L7            0 L2 AND L6

=> file caplus
```

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	16.78	25.64

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-1.30	-1.30

FILE 'CAPLUS' ENTERED AT 08:31:56 ON 09 OCT 2003
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FILE COVERS 1907 - 9 Oct 2003 VOL 139 ISS 15
FILE LAST UPDATED: 8 Oct 2003 (20031008/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> e cysteine/cn
REG1stRY INITIATED
Substance data EXPAND from CAS REGISTRY in progress...

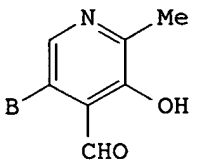
E1	1		CYSTEINAMINE DISULFIDE/CN
E2	1		CYSTEINAMINE HYDROCHLORIDE/CN
E3	2	-->	CYSTEINE/CN
E4	1		CYSTEINE -- TRNA LIGASE (PLASMODIUM FALCIPARUM STRAIN 3D7 GENE PF10-0149)/CN
E5	1		CYSTEINE ABC TRANSPORTER, ATP-BINDING PROTEIN (PSEUDOMONAS PUTIDA STRAIN KT2440 GENE PP0225)/CN
E6	1		CYSTEINE ABC TRANSPORTER, PERIPLASMIC CYSTEINE-BINDING PROTEIN (PSEUDOMONAS PUTIDA STRAIN KT2440 GENE PP0227)/CN
E7	1		CYSTEINE ABC TRANSPORTER, PERMEASE PROTEIN (PSEUDOMONAS PUTIDA STRAIN KT2440 GENE PP0226)/CN
E8	1		CYSTEINE ACETATE/CN
E9	1		CYSTEINE ACRYLAMIDE-METHYLENEBISACRYLAMIDE COPOLYMER/CN
E10	1		CYSTEINE AMINOPEPTIDASE (LACTOBACILLUS DELBURECKII LACTIS DSM7290)/CN
E11	1		CYSTEINE AMINOPEPTIDASE (LACTOBACILLUS PLANTARUM STRAIN WCFS 1 GENE PEPC1)/CN
E12	1		CYSTEINE AMINOPEPTIDASE (LACTOBACILLUS PLANTARUM STRAIN WCFS 1 GENE PEPC2)/CN

=> e3
REG1stRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

```
L9       33224 L8

=> l6 and l9
L10         86 L6 AND L9

=> l6(l)l9
L11         26 L6(L)L9

=> benzaldehyde
         60733 BENZALDEHYDE
          5839 BENZALDEHYDES
L12      62938 BENZALDEHYDE
                (BENZALDEHYDE OR BENZALDEHYDES)

=> l11 and l12
L13          0 L11 AND L12

=> l10 and l12
L14          2 L10 AND L12

=> d l14 1-2 ti

L14  ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Application of chiral thiazolidine ligands to asymmetric hydrosilation

L14  ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Chemical determination of tryptophan in proteins


=> aldehyde
         94231 ALDEHYDE
         91091 ALDEHYDES
L15     146703 ALDEHYDE
                (ALDEHYDE OR ALDEHYDES)

=> l11 and l15
L16          1 L11 AND L15

=> d l16 ti fbib abs

L16  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Free L-.alpha.-amino acids
AN   1984:7156  CAPLUS
DN   100:7156
TI   Free L-.alpha.-amino acids
IN   Commeyras, Auguste; Previero, Aldo; Pugniere, Martine
PA   Centre National de la Recherche Scientifique, Fr.; Institut National de la
     Sante et de la Recherche Medicale (INSERM)
SO   Eur. Pat. Appl., 33 pp.
     CODEN: EPXXDW
DT   Patent
LA   French
FAN.CNT 1
     PATENT NO.        KIND  DATE           APPLICATION NO.   DATE
     ---------------   ----  --------       ---------------   --------
PI   EP 89886           A1   19830928       EP 1983-400546    19830316
     EP 89886           B1   19881012
          R:  AT, BE, CH, DE, GB, IT, LI, LU, NL, SE
```

			FR 1982-4886	19820323
FR 2523961	A1	19830930	FR 1982-4886	19820323
FR 2523961	B1	19850830		
US 4540792	A	19850910	US 1983-472479	19830307
			FR 1982-4886	19820323
AT 37861	E	19881015	AT 1983-400546	19830316
			FR 1982-4886	19820323
			EP 1983-400546	19830316
JP 59002694	A2	19840109	JP 1983-47312	19830323
			FR 1982-4886	19820323

GI



I

AB L-.alpha.-Amino acids were prepd. from D-.alpha.-amino acid esters. The D-.alpha.-amino acid esters underwent catalytic racemization to produce an equil. mixt. of D- and L-.alpha.-amino acid esters, and the resulting L-ester underwent preferential enzymic hydrolysis to give the L-.alpha.-amino acids. The racemization catalysts were arom. **aldehydes** contg. a basic function; preferentially a pyridoxal related compd. Thus, a 0.510 .times. 10-2 M aq. soln. of pyridoxal 5'-phosphate was supported on DEAE-cellulose at pH 7 and 20.degree., 10-2 M D-tyrosine Me ester was added, the suspension was stirred at 20.degree., and then chymotrypsin was added to give L-tyrosine (50% after 160 min).

=>
=> logoff hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	18.98	50.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.65	-1.95

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 08:50:26 ON 09 OCT 2003

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:
* * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 08:59:48 ON 09 OCT 2003
FILE 'CAPLUS' ENTERED AT 08:59:48 ON 09 OCT 2003

COST IN U.S. DOLLARS	SINCE FILE	TOTAL

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	18.98	50.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.65	-1.95

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	18.98	50.48

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.65	-1.95

FILE 'CAPLUS' ENTERED AT 09:00:00 ON 09 OCT 2003
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FILE COVERS 1907 - 9 Oct 2003 VOL 139 ISS 15
FILE LAST UPDATED: 8 Oct 2003 (20031008/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	50.90

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-1.95

FILE 'REGISTRY' ENTERED AT 09:00:06 ON 09 OCT 2003
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 7 OCT 2003 HIGHEST RN 600637-01-2
DICTIONARY FILE UPDATES: 7 OCT 2003 HIGHEST RN 600637-01-2

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

```
=> e serine/cn
E1            1      SERINAMIDE, P-TOLUENESULFONATE/CN
E2            1      SERINAMIDE, P-TOLUENESULFONATE, HYDROBROMIDE/CN
E3            2 --> SERINE/CN
E4            1      SERINE (OR CYSTEINE) PROTEINASE INHIBITOR, CLADE A (ALPHA-1
                     ANTIPROTEINASE, ANTITRYPSIN), MEMBER 10 (HUMAN CLONE MGC:222
                     87 IMAGE:4710734)/CN
E5            1      SERINE (OR CYSTEINE) PROTEINASE INHIBITOR, CLADE A (ALPHA-1
                     ANTIPROTEINASE, ANTITRYPSIN), MEMBER 3 (HUMAN CLONE MGC:1810
                     7 IMAGE:4152390)/CN
E6            1      SERINE (OR CYSTEINE) PROTEINASE INHIBITOR, CLADE A (ALPHA-1
                     ANTIPROTEINASE, ANTITRYPSIN), MEMBER 3 (HUMAN CLONE MGC:1813
                      IMAGE:3547133)/CN
E7            1      SERINE (OR CYSTEINE) PROTEINASE INHIBITOR, CLADE B (OVALBUMI
                     N), MEMBER 1 (HUMAN CLONE MGC:9340 IMAGE:3456154)/CN
E8            1      SERINE (OR CYSTEINE) PROTEINASE INHIBITOR, CLADE B (OVALBUMI
                     N), MEMBER 1B (MOUSE CLONE MGC:40788 IMAGE:5367365)/CN
E9            1      SERINE (OR CYSTEINE) PROTEINASE INHIBITOR, CLADE B (OVALBUMI
                     N), MEMBER 3 (HUMAN CLONE MGC:12244 IMAGE:4101988)/CN
E10           1      SERINE (OR CYSTEINE) PROTEINASE INHIBITOR, CLADE B (OVALBUMI
                     N), MEMBER 5 (MOUSE STRAIN FVB/N CLONE MGC:5950 IMAGE:360028
                     2)/CN
E11           1      SERINE (OR CYSTEINE) PROTEINASE INHIBITOR, CLADE B (OVALBUMI
                     N), MEMBER 6 (HUMAN CLONE MGC:2180 IMAGE:3051381)/CN
E12           1      SERINE (OR CYSTEINE) PROTEINASE INHIBITOR, CLADE B (OVALBUMI
                     N), MEMBER 6 (MOUSE STRAIN C57BL/6J CLONE MGC:6042 IMAGE:348
                     1963)/CN

=> e3
L17           2 SERINE/CN

=> e thionyl chloride/cn
E1            1      THIONYL BROMIDE, COMPD. WITH QUINOLINE (1:2)/CN
E2            1      THIONYL BROMIDE, COMPD. WITH QUINOLINE (2:1)/CN
E3            1 --> THIONYL CHLORIDE/CN
E4            1      THIONYL CHLORIDE (SOCL2)/CN
E5            1      THIONYL CHLORIDE COMPD. WITH METHYL BENZOATE (1:2)/CN
E6            1      THIONYL CHLORIDE COMPOUND WITH DIMETHYLFORMAMIDE (1:2)/CN
E7            1      THIONYL CHLORIDE COMPOUND WITH DIMETHYLFORMAMIDE (1:3)/CN
E8            1      THIONYL CHLORIDE CYANIDE/CN
E9            1      THIONYL CHLORIDE FLUORIDE/CN
E10           1      THIONYL CHLORIDE HYDRIDE/CN
E11           1      THIONYL CHLORIDE NITRATE/CN
E12           5      THIONYL CHLORIDE, ALUMINUM COMPLEX/CN

=> e3
L18           1 "THIONYL CHLORIDE"/CN

=> e thionyl bromide/cn
E1            1      THIONUPHLUTINE C/CN
E2            1      THIONUPHLUTINE C DIMETHIODIDE/CN
E3            1 --> THIONYL BROMIDE/CN
E4            1      THIONYL BROMIDE CHLORIDE/CN
E5            1      THIONYL BROMIDE FLUORIDE/CN
E6            1      THIONYL BROMIDE HYDRIDE ((SO)BRH)/CN
```

```
E7            1     THIONYL BROMIDE, BORON COMPLEX/CN
E8            1     THIONYL BROMIDE, BORON DERIV./CN
E9            1     THIONYL BROMIDE, COMPD. WITH 2-PICOLINE (1:1)/CN
E10           1     THIONYL BROMIDE, COMPD. WITH 2-PICOLINE (1:2)/CN
E11           1     THIONYL BROMIDE, COMPD. WITH 2-PICOLINE (2:1)/CN
E12           1     THIONYL BROMIDE, COMPD. WITH 3-PICOLINE (1:2)/CN

=> e3
L19           1 "THIONYL BROMIDE"/CN

=> file caplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      13.46      64.36

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                         ENTRY    SESSION
CA SUBSCRIBER PRICE                                       0.00      -1.95

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FILE COVERS 1907 - 9 Oct 2003  VOL 139 ISS 15
FILE LAST UPDATED: 8 Oct 2003  (20031008/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> l17
L20       31363 L17

=> l18
L21        5368 L18

=> l19
L22         194 L19

=> l21 or l22
L23        5444 L21 OR L22

=> l20 and l23
L24           6 L20 AND L23

=> d l24 1-6 ti fbib abs

L24  ANSWER 1 OF 6  CAPLUS  COPYRIGHT 2003 ACS on STN
TI   Structure-function analysis of lipopeptide pheromones from the plant
     pathogen Ustilago maydis
AN   2002:870632  CAPLUS
```

DN 139:194264
TI Structure-function analysis of lipopeptide pheromones from the plant pathogen Ustilago maydis
AU Szabo, Z.; Toennis, M.; Kessler, H.; Feldbruegge, M.
CS Inst. Genet. Microbiol., Ludwig Maximilians Univ. Munich, Munchen, 80638, Germany
SO Molecular Genetics and Genomics (2002), 268(3), 362-370
CODEN: MGGOAA; ISSN: 1617-4615
PB Springer-Verlag
DT Journal
LA English
AB Mating of 2 haploid cells is a prerequisite for the successful infection of corn by the pathogenic fungus U. maydis. Cell-cell recognition is mediated by small lipopeptide pheromones. Genes encoding pheromone precursors as well as pheromone receptors are located in the a mating type locus. Two pheromones are known, the tridecapeptide a1 and the nonapeptide a2, both of which contain an S-prenylated cysteine Me ester at the C-terminus. It has previously been shown that synthetic pheromones are active in a biol. test system. Here, we used the same assay to perform a detailed anal. of synthetic a1 and a2 pheromones. Testing of truncated derivs. of a1 and a2 revealed that in both cases the pheromone function is less sensitive to N-terminal than to C-terminal truncations. Replacement of each amino acid in the a1 pheromone by either alanine or the corresponding D-amino acids revealed that 4 positions are important for function: the 2 central glycines (positions 5 and 9), proline at position 7, and tyrosine at position 10. By introducing different naturally occurring as well as synthetic amino acids at position 10, we demonstrate that the presence of an arom. side chain at this position is necessary for function. We propose a model in which a cis peptide bond at proline 7 favors the formation of a type II' .beta. turn of the a1 pheromone backbone with glycine 9 in position i+1 (where i refers to the 1st position of the .beta. turn). As a result, tyrosine 10, at position i+2 of the turn, would be highly exposed and could be inserted into a structurally well-defined binding pocket of the receptor. The latter may represent an important facet of receptor specificity.
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN
TI 13C Gas Chromatography-Combustion Isotope Ratio Mass Spectrometry Analysis of N-Pivaloyl Amino Acid Esters of Tissue and Plasma Samples
AN 2000:87593 CAPLUS
DN 132:331624
TI 13C Gas Chromatography-Combustion Isotope Ratio Mass Spectrometry Analysis of N-Pivaloyl Amino Acid Esters of Tissue and Plasma Samples
AU Metges, Cornelia C.; Daenzer, Maren
CS Deutsches Institut fur Ernahrungsforschung (DIFE)-Potsdam, Bergholz-Rehbrucke, D-14558, Germany
SO Analytical Biochemistry (2000), 278(2), 156-164
CODEN: ANBCA2; ISSN: 0003-2697
PB Academic Press
DT Journal
LA English
AB We present the anal. of the stable carbon isotope compns. of 14 individual N-pivaloyl-iso-Pr (NPP) amino acid esters by gas chromatog.-combustion isotope ratio mass spectrometry (GC-C-IRMS). The mean reproducibility of derivatization procedure and GC-C-IRMS anal. was 0.45.permill. (range, 0.12-0.68), whereas the mean anal. error was 0.26.permill. .delta.13C (range, 0.13-0.42). Furthermore, the .delta.13C values of N-pivaloyl-iso-Pr and N-acetyl-Pr (NAP) amino acid esters were compared. Due to a reproducible isotopic fractionation introduced by the derivatization process an empirical correction factor for each individual amino acid was derived sep. for both derivs. (NPP, -1.13 to -2.52 (lysine,

+2.09).permill. .delta.13C; NAP, -2.36 to -3.97 (lysine, +1.91).permill. .delta.13C), and the original .delta.13C value of the underivatized amino acid was calcd. Further, we performed an animal study where rats (n = 5) ingested a mixed meal contg. uniformly 13C-labeled casein (indispensable amino acids 1.3 to 1.7 at. %). One hour after the meal .delta.13C values of protein-bound amino acids from small intestinal mucosa and liver and of free amino acids from mucosa and plasma were detd. Significant 13C enrichments of indispensable amino acids of the free pools of mucosa and plasma (range, 0.0518 to 0.1700 at. % excess) and in mucosa and liver proteins (range, 0.0021 and 0.0161 at.% excess) were obsd. The feasibility of various derivs. for the measurement of carbon isotopic compn. is discussed. (c) 2000 Academic Press.

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN

TI Processes for producing .beta.-halogeno-.alpha.-amino-carboxylic acids and S-phenylcysteine derivatives and intermediates thereof

AN 1999:460386 CAPLUS

DN 131:88201

TI Processes for producing .beta.-halogeno-.alpha.-amino-carboxylic acids and S-phenylcysteine derivatives and intermediates thereof

IN Yamashita, Koki; Inoue, Kenji; Kinoshita, Koichi; Ueda, Yasuyoshi; Murao, Hiroshi

PA Kaneka Corporation, Japan

SO PCT Int. Appl., 46 pp.
CODEN: PIXXD2

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9933785	A1	19990708	WO 1998-JP5983	19981228
	W: CN, IN, JP, KR, SG, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
				JP 1997-367814 A	19971227
				JP 1998-186314 A	19980701
				JP 1998-264397 A	19980918
	EP 1046634	A1	20001025	EP 1998-961624	19981228
	EP 1046634	B1	20030910		
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL				
				JP 1997-367814 A	19971227
				JP 1998-186314 A	19980701
				JP 1998-264397 A	19980918
				WO 1998-JP5983 W	19981228
	JP 2000186069	A2	20000704	JP 1999-13388	19990121
				JP 1998-186314 A	19980701
				JP 1998-264397 A	19980918
	US 6372941	B1	20020416	US 1999-582461	19990816
				JP 1997-367814 A	19971227
				JP 1998-186314 A	19980701
				JP 1998-264397 A	19980918
				WO 1998-JP5983 W	19981228
	WO 2000043360	A1	20000727	WO 2000-JP274	20000121
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,				

CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

			JP 1999-13388	A 19990121
EP 1067119	A1	20010110	EP 2000-900854	20000121
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
			JP 1999-13388	A 19990121
			WO 2000-JP274	W 20000121
US 6320072	B1	20011120	US 2000-646702	20001214
			JP 1999-13388	A 19990121
			WO 2000-JP274	W 20000121
US 2002082450	A1	20020627	US 2001-26732	20011227
			JP 1997-367814	A 19971227
			JP 1998-186314	A 19980701
			JP 1998-264397	A 19980918
			WO 1998-JP5983	W 19981228
			US 1999-582461	A319990816
US 2002103399	A1	20020801	US 2001-26726	20011227
			JP 1997-367814	A 19971227
			JP 1998-186314	A 19980701
			JP 1998-264397	A 19980918
			WO 1998-JP5983	W 19981228
			US 1999-582461	A319990816

OS CASREACT 131:88201; MARPAT 131:88201

AB Disclosed are an industrially advantageous process for producing .beta.-halogeno-.alpha.-aminocarboxylic acids; and a process for producing optically active N-protected-S-phenylcysteine of formula R1RNCH(CH2SPh)CO2H (R1 = amino-protective group; R = H or R and R1 together represent an amino-protective group) having a high optical purity and its intermediates with the use of the former process. The process for producing .beta.-halogeno-.alpha.-aminocarboxylic acids or salts thereof comprises treating with a halogenating agent a .beta.-hydroxy-.alpha.-aminocarboxylic acid (wherein the basicity of the amino group at the .alpha.-position is not shielded by the presence of the substituent of the amino group) or a salt thereof with an acid to thereby halogenate the hydroxyl group. The process for producing optically active N-protected-S-phenylcysteine represented by general formula (3) or its salt comprises subjecting optically active serine or its salt to the above-mentioned prodn. process and then treating the product with an amino-protective agent followed by a reaction with thiophenol under basic conditions. These three steps convert optically active serine which is readily available in an industrial scale, into optically active .beta.-chloroaniline and then into N-protected-S-phenylcysteine by reaction of the N-protected-.beta.-chloroaniline with thiophenol without substantially lowering optical purity of the starting material. N-protected-S-phenylcysteine is useful as an intermediate for drugs, in particular anti-AIDS drugs. Thus, 0.4 g L-serine hydrochloride and 0.029 g Et3N were suspended in 4 mL 1,2-dimethoxyethane under N, followed by adding dropwise 0.67 g SOCl2. The resulting mixt. was stirred at 60.degree. for 2 h, treated with 8 mL H2O at .ltoreq.15.degree. and stirred at room temp. for 30 min, treated with 1.6 g K2CO3 to make pH 10, treated dropwise with 0.956 g benzyl chloroformate, stirred at room temp. overnight, ice-cooled, and acidified with 50% H2SO4 to give 42% N-benzyloxycarbonyl-.beta.-chloro-L-alanine (I). To a soln. of 0.108 g I in 0.5 mL H2O was added 0.097 g Na2CO3, followed by adding dropwise 0.054 g thiophenol, and the resulting mixt. was stirred at 60.degree. for 2 h to give,after silica gel chromatog., 81% N-benzyloxycarbonyl-S-phenyl-L-cysteine of 98% e.e.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN

TI Molecular analytical release tags and their use in chemical analysis

AN 1997:527647 CAPLUS

DN 127:187872
TI Molecular analytical release tags and their use in chemical analysis
IN Giese, Roger W.; Abdel-Baky, Samy; Allam, Kariman
PA Northeastern University, USA
SO U.S., 38 pp., Cont.-in-part of U.S. Ser. No. 45.089.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5650270	A	19970722	US 1990-496251	19900320
				US 1982-344394	19820201
				US 1987-45089	19870504
	US 4709016	A	19871124	US 1982-344394	19820201

PATENT FAMILY INFORMATION:
FAN 1984:20051

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 85554	A1	19830810	EP 1983-300456	19830128
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
				US 1982-344394	19820201
	US 4709016	A	19871124	US 1982-344394	19820201
	DK 8300364	A	19830802	DK 1983-364	19830131
				US 1982-344394	19820201
	ES 519424	A1	19840801	ES 1983-519424	19830131
				US 1982-344394	19820201
	CA 1246058	A1	19881206	CA 1983-420574	19830131
				US 1982-344394	19820201
	JP 58146540	A2	19830901	JP 1983-15359	19830201
				US 1982-344394	19820201
	US 4650750	A	19870317	US 1984-591262	19840319
				US 1982-344394	19820201

FAN 1995:229457

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5360819	A	19941101	US 1985-710318	19850311
				US 1982-344394	19820201
	US 4709016	A	19871124	US 1982-344394	19820201
	DK 8300364	A	19830802	DK 1983-364	19830131
				US 1982-344394	19820201
	ES 519424	A1	19840801	ES 1983-519424	19830131
				US 1982-344394	19820201
	CA 1246058	A1	19881206	CA 1983-420574	19830131
				US 1982-344394	19820201
	JP 58146540	A2	19830901	JP 1983-15359	19830201
				US 1982-344394	19820201
	US 4650750	A	19870317	US 1984-591262	19840319
				US 1982-344394	19820201
	US 5516931	A	19960514	US 1993-53608	19930422
				US 1982-344394	19820201
				US 1985-710318	19850311
	US 5602273	A	19970211	US 1996-598468	19960208
				US 1982-344394	19820201
				US 1985-710318	19850311
				US 1993-53608	19930422
	US 5604104	A	19970218	US 1996-598691	19960208
				US 1982-344394	19820201
				US 1985-710318	19850311
				US 1993-53608	19930422
	US 5610020	A	19970311	US 1996-598439	19960208
				US 1982-344394	19820201
				US 1985-710318	19850311

				US 1993-53608	19930422

FAN 1996:350610

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5516931	A	19960514	US 1993-53608	19930422
				US 1982-344394	19820201
				US 1985-710318	19850311
	US 4709016	A	19871124	US 1982-344394	19820201
	US 5360819	A	19941101	US 1985-710318	19850311
				US 1982-344394	19820201
	US 5602273	A	19970211	US 1996-598468	19960208
				US 1982-344394	19820201
				US 1985-710318	19850311
				US 1993-53608	19930422
	US 5604104	A	19970218	US 1996-598691	19960208
				US 1982-344394	19820201
				US 1985-710318	19850311
				US 1993-53608	19930422
	US 5610020	A	19970311	US 1996-598439	19960208
				US 1982-344394	19820201
				US 1985-710318	19850311
				US 1993-53608	19930422

OS MARPAT 127:187872

AB Anal. reagents designated "release tags" are disclosed for labeling mol. species with a highly detectable signal group which can be released in the form of a volatile compd. at a desired point in an anal. procedure. In one embodiment, the release tags have the formula (SgCO)xL(Rx)r wherein each Sg is a signal group bearing .gtoreq.1 electroneg. substituents, L is any of a wide variety of groups which, when attached to a carbonyl group, form a readily cleaved linkage, each COL moiety is a release group which, upon scission, releases signal group Sg in the form of a volatile compd., and each Rx is a reactivity group for attaching the release tag compd. to a mol. species to be labeled. In a second embodiment, the release tags have the formula SgReRx wherein Sg and Rx are defined as above and Re is a release group which is an olefin, .alpha.-hydroxy ketone, or vicinal diol. Conjugates of the release tag compds. with, e.g., proteins, DNA, lipids, carbohydrates, drugs, cells, viruses, pesticides, etc. and assay methods employing them are also disclosed.

L24 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN

TI Migration of the peptide residue in serine peptides

AN 1955:24250 CAPLUS

DN 49:24250

OREF 49:4741d-h

TI Migration of the peptide residue in serine peptides

AU Botvinik, M. M.; Avaeva, S. M.; Mistryukov, E. A.

CS Moscow State Univ.

SO Zhurnal Obshchei Khimii (1954), 24, 2084-91
CODEN: ZOKHA4; ISSN: 0044-460X

DT Journal

LA Unavailable

AB cf. C.A. 48, 13628i; Elliott, C.A. 46, 5626g. Treatment of serine peptides contg. other amino-acid groups with SOCl2 or HCl in alc. or dioxane soln. gave the .beta.-chloro derivs. of alanine peptides which in aq. medium gave the initial compds. Under action of concd. HCl there appears to take place a migration of the peptide union from N to O, since the N-peptides of serine are hydrolyzed more rapidly than O-peptides. Treatment with H2SO4 gave 2 reactions: migration of the peptide link from N to O and dehydration of the peptides. Heating 0.5 g. N-(benzoylphenylalanyl)-serine iso-Pr ester 3 min. with 5 ml. SOCl2 gave on diln. with Et2O N-(benzoylphenylalanyl)-.beta.-chloroalanine iso-Pr ester, m. 157.degree.; the same product formed if SOCl2 was replaced by dry HCl in dry dioxane. Heating the product 2 hrs. in aq. dioxane soln.

gave the starting material, m. 168.degree.. N-Benzoylphenylalanylserine methylamide kept 1 hr. with SOCl2 at O.degree. gave a product (I), m. 135-7.degree., which on standing evolved SO2 and gave AgCl ppt. with AgNO3; treated with H2O it gave the initial amide. I taken up in hot AcOH and dild. with H2O gave N-(Benzoylphenylalanyl)-.beta.-chloroalanine methylamide, m. 199.degree.; the same substance formed in reaction with SOCl2 at 60.degree., PCl5 in CHCl3 at room temp., dry EtOH-HCl at 70.degree., or dry dioxane-HCl at room temp. The rate of hydrolysis of N- and O-peptides of serine with acetylphenylalanyl, phthalylglycyl, and benzoylphenylalanyl groups was detd. in concd. H2SO4 by periodic detn. of amino N; similarly hydrolysis was followed of N-(benzoylphenylalanyl)serine iso-Pr ester, N-(benzoylphenylalanyl)serine methylamide, and N-(p-toluenesulfoglycyl)serine methylamide in H2SO4 of various concns. and in concd. HCl at 18-26.degree..

L24 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2003 ACS on STN
TI Oxazolines
AN 1950:40777 CAPLUS
DN 44:40777
OREF 44:7836b-i,7837a-b
TI Oxazolines
AU Fry, Edward M.
CS Natl. Inst. of Health, Bethesda, MD
SO Journal of Organic Chemistry (1949), 14, 887-94
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA Unavailable
AB Because the compd. described as 2-phenyl-4-(carboxymethyl)oxazoline (cf. Bergmann, et al., C.A. 19, 1852) was found to be CH2ClCH(NHBz)CO2Me (I), the reaction of SOCl2 with .beta.-hydroxyalkylamides is reinvestigated. Treating CH2(OH)CH(NHBz)CO2Me (II) with a 4- to 8-fold excess of SOCl2 in the cold gives a complex salt (III), contg. about 2.1 mols. II and 1 mol. SO2, sintering at about 57.degree., m. 108-12.degree.. III seems to be stable in the cold, but at room temp. or on warming it loses SO2 and H2O, giving I. The SOCl2 in III is bound as an intermediate chlorosulfinate, as is shown by the fact that by passing HCl and SO2 into an ether soln. of 2-phenyl-4-(carboxymethyl)oxazoline (IV) a similar complex salt is formed. Refluxing II with SOCl2 gives 86% I, m. 114-16.degree.. Heating I in H2O gives 79% CH2(OBz)CH(NH2.HCl)CO2Me (V), m. 137-8.degree., which is also formed in 73% yield when III is dissolved in H2O. Decompn. of III in Na2CO3 soln. gives 72% IV, b2 133-5.degree., f.p. 29.5.degree., nD23 1.5501. Sapon. of IV gives 2-phenyl-4-carboxyoxazoline (VI), m. 159-61.degree.. Hydrolysis of VI in 95% EtOH at 20.degree. gives 96% O-benzoylserine (VII), m. 145-5.5.degree. (decompn.). VII in Na2CO3 rearranges to 91% N-benzoylserine. Passing HCl into VI in dioxane and heating the mixt. 10 min. give 86% .alpha.-benzamido-.beta.-chloropropionic acid (VIII), m. 145-7.degree., which, heated with H2O and treated with HCl-C5H5N, gives 83% VII. Treating VIII or I with 2 N NaOH at 20.degree. gives 72% .alpha.-benzamidoacrylic acid, m. 153-5.degree. (decompn.), which hydrogenated with Adams catalyst gives DL-benzoylalanine, m. 163-5.degree.. VIII with NaHCO3 22 hrs. at 40.degree. gives 50% VI. SOCl2 (2 mols.) and 1 mol. HOCH2CH2NHCHO at below 18.degree. give a 1:1 addn. compd., which heated under ether, gives 35% HCONHCH2CH2Cl b10 118.5-21.degree., nD25 1.4845. HOCH2CH2NHBz (IX) b1 179-89.degree., m. 61-3.degree.. Treating 2 g. IX 2 hrs. with SOCl2 at 0.degree. gives 2.3 g. phenyloxazoline-HCl (X), m. 75-6.degree., which on heating changes to BzNHCH2CH2Cl (XI), m. 101-3.degree.. X (0.2 g.) heated 2 min. in H2O forms 0.133 g. H2NCH2CH2OBz.HCl (XII), m. 142-5.degree., and 0.025 g. XI, m. 102-3.5.degree.. XI is also obtained in 88% yield on rearrangement of X on a steam bath. Heating XI 10 min. with H2O gives 88% XII. Rearrangement of XII with NaOH gives 61% IX. ClCH2CH(OH)CH2NH2 m. 100-3.degree.. p-O2NC6H4CONHCH2CH(OH)CH2Cl (XIII) (74% yield) m. 103-6.degree.. XIII (2 g.) with SOCl2 gives 2.64 g.

ClCH2CH(OSOCl)CH2NHCOC6H4NO2(p) (XIV) which decompd. with H2O gives 1.81 g. XIII. XIV in dioxane with XIII gives 30% bis[3-chloro-1-(p-nitrobenzamido)propyll sulfinate, m. 167-8.degree. (decompn.). XIV heated in a steam bath loses SO2, giving 27% impure p-O2NC6H4CONHCH2CHClCH2Cl and 73% p-O2NC6H4COCH(CH2Cl)CH2NH2.HCl (XV), m. 185-7.degree. (decompn.). XV treated with NaHCO3 gives 57% XIII. Heating a suspension of XIV in SOCl2 5 min. on a steam bath and evapg. the excess SOCl2 give 95% 2-(p-nitrophenyl)-5-(chloromethyl)oxazoline-HCl (XVI), m. 127-9.degree. [free base (XVII), m. 116-17.degree.]. XVI loses HCl on standing in the air. Heating XV alone or in SOCl2 gives N-(2,3-dichloropropyl)-p-nitrobenzamide (XVIII), m. 122-3.5.degree.. With NaOMe XVIII is slowly cyclized to XVII. Heating p-O2NC6H4CONHCH2CH(OH)CH2Cl (XIX) with Et2NH 1 hr. in a sealed tube gives 75% 3-Et2N analog-HCl (XX), m. 162-3.5.degree.. Treating 0.3 g. XX with SOCl2 at 20.degree. and evapg. the SOCl2 give 20% 2-diethylamino-1-aminopropyl p-nitrobenzoate-2HCl (XXI), m. 194-5.degree. (decompn.). Rearrangement of 2-(p-nitrophenyl)-5-(diethylaminomethyl) oxazoline (XXII)-HCl on a steam bath gives 87% N-(3-diethylamino-2-chloropropyl)-p-nitrobenzamide-HCl, m. 112.5-14.5.degree.. The ease of hydrolysis of XXII is shown by the fact that when 0.5 g. is slowly titrated with N HCl it is completely dissolved after addn. of 1 equiv. HCl (pH 7); after addn. of a 2nd equiv. HCl the pH is 1, and immediate evapn. of the soln. in vacuo gives XXI which, treated 10 min. with NaHCO3 and acidified, gives 76% XIX.

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FULL ESTIMATED COST	27.62	91.98

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CA SUBSCRIBER PRICE	-3.91	-5.86

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FULL ESTIMATED COST	27.62	91.98

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-3.91	-5.86

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(FILE 'HOME' ENTERED AT 08:25:06 ON 09 OCT 2003)

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     FILE 'STNGUIDE' ENTERED AT 08:25:18 ON 09 OCT 2003

     FILE 'HOME' ENTERED AT 08:25:59 ON 09 OCT 2003

     FILE 'REGISTRY' ENTERED AT 08:26:08 ON 09 OCT 2003
                E METHYLSELENOCYSTEINE/CN
L1             2 E3

     FILE 'CAPLUS' ENTERED AT 08:27:04 ON 09 OCT 2003
L2           112 L1
L3        367971 AMINE
L4             2 L2 AND L3
L5            66 RECEMIZ? OR RACEMIS?
L6         10436 RACEMIZ? OR RACEMIS?
L7             0 L2 AND L6

     FILE 'CAPLUS' ENTERED AT 08:31:56 ON 09 OCT 2003

     FILE 'REGISTRY' ENTERED AT 08:32:21 ON 09 OCT 2003
                E CYSTEINE/CN

     FILE 'CAPLUS' ENTERED AT 08:32:21 ON 09 OCT 2003
                S E3

     FILE 'REGISTRY' ENTERED AT 08:32:32 ON 09 OCT 2003
L8             2 S E3/CN

     FILE 'CAPLUS' ENTERED AT 08:32:32 ON 09 OCT 2003
L9         33224 S L8
L10           86 L6 AND L9
L11           26 L6(L)L9
L12        62938 BENZALDEHYDE
L13            0 L11 AND L12
L14            2 L10 AND L12
L15       146703 ALDEHYDE
L16            1 L11 AND L15

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     FILE 'REGISTRY' ENTERED AT 09:00:06 ON 09 OCT 2003
                E SERINE/CN
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                E THIONYL CHLORIDE/CN
L18            1 E3
                E THIONYL BROMIDE/CN
L19            1 E3

     FILE 'CAPLUS' ENTERED AT 09:01:09 ON 09 OCT 2003
L20        31363 L17
L21         5368 L18
L22          194 L19
L23         5444 L21 OR L22
L24            6 L20 AND L23

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                                                   ENTRY    SESSION
FULL ESTIMATED COST                               29.70      94.06

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                                                   ENTRY    SESSION
CA SUBSCRIBER PRICE                               -3.91      -5.86
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NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation

of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 11:39:32 ON 09 OCT 2003

=> ogoff hold
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
Some commands only work in certain files. For example, the EXPAND command can only be used to look at the index in a file which has an index. Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of commands which can be used in this file.

=> logoff hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 11:39:42 ON 09 OCT 2003